Nomadic Passage:

Water Conservation and Land Preservation

by

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I hereby declare that I am the sole author of this thesis. This is a true copy of the thesis, including any required final revisions, as accepted by my examiner.

I understand that my thesis may be made electronically available to the public.

"Only a fool does not acknowledge

a problem that stares him in the face

Even camels don't just stay put

in their enclosure

Nothing is static in this world,

and one's luck will change

Abundance and drought

succeed each other"[1]

"Doqon baan ogsoonayn
darxumada ku foolleh
Dugsan maayo geeluba
duddadii yagleelee
Si un laguma daayee
xiddigaa is doorshee
Doog iyo abaar baa
kolba midi dambeeyaa"[1]

- Somali Translation

[1] *Kapteijns, Lidwien and Maryan Omar Ali. 2001. "Come Back Safely": Laments about Labor Migration in Somali Love Songs." Northeast African Studies 8 (3): 33-45.*

"Nomadic Passage: Water Conservation and Land Preservation" investigates the dynamic and sustainable qualities of Somali nomadic life, in regards to their livelihood, communal spaces, and traditional practices that are under extreme threat from the effects of climate change. These unstable conditions have resulted in decreased human stewardship on the nomads' traditional environments. Nomadic life is reliant on landscape conditions that are well managed and maintained. Roughly half of the population of Somaliland still lives nomadically; however, recurrent droughts have caused millions of deaths[2] due to water scarcities, famine, and growing food insecurities. Overgrazing and overusing resources without considering how to replenish the soil or replant uprooted vegetation are the main reasons responsible for the increased desert conditions. Therefore, newfound scarcity in sustenance compels nomads to migrate towards the city in search of better situations to sustain themselves and their camels. Yet, they are not accustomed to or equipped for the demands of urban life.

Throughout time Somali nomads have moved their huts to places that had enough water and frequent rains. The Somali hut symbolized a pivotal artifact that adjusted to the abrupt shifts and changes within the environment. The hut and its craft magnify the status of nomadic women in establishing a firm and rooted culture. "One could consider the architecture of nomadism like quilts that emerge from the intimate world of female kinships, friendships and rituals."[3] Women are responsible for every genuine aspect of the hut, from its dynamic nature to its profound beauty. Nomads are bound in a cyclical pattern of laying down their foundations during prosperous seasons. In times of hardship, they dismantle their homes and possessions to proceed on camel-back and seek more favorable conditions. Their entire lives are engaged in the know-how of "transhumance," referring to the term of pastoralists moving in concert with their livestock between fixed grazing

2 *"Famine in Somalia could Cause More than 2 Million Deaths, UN Says." The National. https://www.thenational.ae/world/africa/famine-in-somalia-could-cause-more-than-2-million-deaths-un-says-1.871599.*

3 *Prussin, Labelle. 1995. African Nomadic Architecture : Space, Place, and Gender. Washington: Smithsonian Institution Press : National Museum of African Art.*

areas. The lack of water and available land resources will threaten their wellbeing along with the lives of their animals. Eventually, eradicating the ancient practices of nomadism and their footprint on the land.

The presence and absence of water create a repetitive narrative within these environments. Water displays natural and discarded materials along its course, where seasonal rivers and episodes of flash flooding from rainy seasons sculpt the Earth. And during dry seasons, the absence of water leaves deep, sunken scars on the land, simultaneously scarring nomadic life. We can view the journey of water in a similar light to the passage of the Somali nomads. Both move through different thresholds and embrace the characteristics of their surroundings.

On a site close by one of the nomad dwelling sites, I am designing a public pavilion modeled on the framework of existing infrastructure, such as dug wells and boreholes. My project amplifies connections between the everyday act of obtaining water and imprinting foundational narratives, primarily focusing on the significance of oral poetry in Somali culture. The problem is that today drilled wells have lost their social and cultural dimension as a space of gathering, and their edges aren't safe to linger around. Watering wells were prime social areas for nomads and pastoralists to congregate and recite their poems from memory to an audience ever eager to listen. Oral traditions such as songs and poetry continue to be creative forms that encompass all aspects of their lives, a tool for nomads and pastoralists to document and record their history. The design seeks to incorporate the complexities found within this cumulative knowledge of the landscape and the elusive nature of water. The metamorphic qualities of water and the kinetic energy of nomadism should be viewed in tandem and considered within a temporal framework of time.

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This thesis is dedicated to the people of Somaliland, to those that are misrepresented and unrecognized. And to those that are constantly searching for places where they feel the most at ease, joyful and unapologetic.

iii Author's Declaration

vi Abstract

viii Acknowledgments

xiv List of Figures

1 Introduction

7 Methodologies

15 **01 _** Seeking Recognition After Crisis

1.1 - Understanding Somaliland and Its Crises

1.2 - Reconciling Nomadic Tradition

1.3 - Gendered Landscapes

1.4 - A Pastoralist's Passion - Understanding IDP & Pastoral Relationships Within the City

49 **02 _** The Necessity and Art of Construction

2.1 - Threads in the Nomadic Landscape: The Somalian Hut, A Pivotal Artifact Throughout Time

2.2 - The Act of Building & Remembrance Through Songs

2.3 - The Huts Components and Morphology

2.4 - Encounter With the Kebed

103 **03 _** Navigating Through Unfamiliar Landscapes

3.1 - Sustaining Land: Traveling East: Laas Geel, Berbera & Sheikh

3.2 - Water Management: Traveling West: Arabsiyo, Gabiley & Borama

167 **04 _** Traces of Water

4.1 - The Didactic Narratives of Water

4.2 - Network of Necessity: Methods of Extraction, Storage, & Redistribution

203 **05 _ Repurposing Infrastructural for Places of Gathering**

5.1 - Water, Poetry & The Universe

5.2 - Site & Material Explorations

5.3 - Proposed Site Intervention

5.4 - Design: Seeking Sustenance & Communal Congregation

251 **06 _ Iterative Process Within Design**

6.1 - Clarification Through Drawing

6.2 - Speculations on the Design

261 **Conclusions**

265 **Bibliography**

Introduction

2 *figure 0.1*
Map depicting visited areas within East Africa
illustrated by author

6 *figure 0.2*
On route. Hargeisa, Somaliland
photograph taken by author

8 *figure 0.3*
Sketches & drawings by author

10 *figure 0.4*
Cave paintings of Laas Geel.Hargeisa, Somaliland
photograph taken by author

12 *figure 0.5*
Photo of author in Gabiley, Somaliland
photograph taken by Yasin Khadar

14 *figure 0.6*
Inside the caves of Laas Geel.Hargeisa, Somaliland
photograph taken by author

1.0 _ Seeking Recognition After Crisis

16 *figure 1.0*
Jigjiga Yar, Hargeisa, Somaliland
photograph taken by author

18 *figure 1.1*
Residential area. Jigjiga Yar, Hargeisa, Somaliland
photograph taken by author

20 *figure 1.2*
Map of regions within 'The Horn of Africa'
illustrated by author

22 *figure 1.3*
Environmental Crisis: Map showing regions
affected by drought

24 *figure 1.4*
Suburbs, Hargeisa, Somaliland
photograph taken by author

26 *figure 1.5*
Waste-management in the suburbs of
Hargeisa, Somaliland
photograph taken by author

28 *figure 1.6*
Playful goats in the suburbs of
Hargeisa, Somaliland
photograph taken by author

28 *figure 1.7*
Method of protecting trees from being eaten by goats.
Hargeisa, Somaliland
photograph taken by author

30 *figure 1.8*
Map of nomadic tribes along Sub-Saharan Africa
illustrated by author

32 *figure 1.9*
Interior of a hut that uses discarded materials to
create shading.Livestock Market, Hargeisa, Somaliland
photograph taken by author

34 *figure 1.10*
Pastoralist Moving. Borama, Somaliland
photograph taken by author

34 *figure 1.11*
A modern hut used for shading.
Livestock Market. Hargeisa, Somaliland
photograph taken by author

36 *figure 1.12*
Nomadic Settlement: Gender Landscape, Plan &
Section
illustrated by author

38 *figure 1.13*
Nomadic Migration Route (1,000-1850 AD)
Map illustrated by author

40 *figure 1.14*
Camels grazing in the suburbs.
Jigjiga Yar, Hargeisa, Somaliland
photograph taken by author

41 *figure 1.15*
Livestock Market, Hargeisa, Somaliland
photograph taken by author

figure 1.16
Camel herd, rural outskirts.
42 *Hargeisa, Somaliland*
photograph taken by author

figure 1.17
"A Pastoralist's Passion" -
43 *ink on mylar - 6x36",*
drawn by author

figure 1.18
43 *Close-up (figure 1.18), Pastoralist tending to its herds*

figure 1.19
43 *Close-up (figure 1.18), Pastoralist watering camel*

figure 1.20
44 *Close-up (figure 1.18), Resting camels, mother and child*

figure 1.21
44 *Close-up (figure 1.18), Pastoralist milking a camel*

figure 1.22
Pastoralist's herd, Bada Cas Suburbs
46 *Hargeisa, Somaliland*
photograph taken by author

figure 1.23
47 *Livestock Market. Hargeisa, Somaliland*
photograph taken by author

figure 1.24
48 *Pastoralist's herd, Bada Cas Suburbs.Hargeisa,*
Somaliland, photograph taken by author

2.0 _ The Necessity and Art of Construction

figure 2.0
Woman sewing together fabric used for
50 *the hut's exterior*
Borama, Somaliland
photograph taken by author

figure 2.1
52 *Nomadic Hut, Rural Outskirt*
Hargeisa, Somaliland
photograph taken by author

figure 2.2
54 *Nomadic Hut, Rural Outskirt*
Hargeisa, Somaliland
photograph taken by author

56 *figure 2.3*
Nomadic Lifestyle. Ink on mylar 24x36."
sketch by author

figure 2.4
58 *Nomadic Huts, Rural Outskirt.*
Hargeisa, Somaliland
photograph taken by author

60 *figure 2.5*
Sitting under the acacia tree
sketch by author

62 *figure 2.6*
Nomadic women pulling acacia roots
sketch by author

figure 2.7
64 *Nomadic women chewing acacia fibers to make*
the "kebed"
sketch by author

66 *figure 2.8*
Nomadic women bending acacia roots
sketch by author

figure 2.9
68 *Establishing the foundation for the huts.*
The use of "udubs and dhigos"
sketch by author.

70 *figure 2.10*
Tying down the exterior mats
sketch by author.

72 *figure 2.11*
The nomadic hut's interior
sketch by author.

74 *figure 2.12*
Nomadic women by the fire
sketch by author

76 *figure 2.13*
Goat grazing
sketch by author.

78 *figure 2.14*
Nomadic Cultural Map, "Xeesti Kebed". 36x42", ink on mylar. illustrated by author

80 *figure 2.15*
The hut's components and morphology Arabsiyo, Somaliland photograph taken by author

82 *figure 2.16*
Nomadic Huts, Rural Outskirt Hargeisa, Somaliland photograph taken by author

84 *figure 2.17*
"a structural diagram of the construction of a Somali aqal."
Prussin, Labelle. 1995. African Nomadic Architecture : Space, Place, and Gender. Washington: Smithsonian Institution Press : National Museum of African Art.

86 *figure 2.18*
"floor plan, showing the location of various mats and storage containers"
Prussin, Labelle. 1995. African Nomadic Architecture : Space, Place, and Gender. Washington: Smithsonian Institution Press : National Museum of African Art.

88 *figure 2.19*
Nomadic Huts, Rural Outskirt Hargeisa, Somaliland photograph taken by author

90 *figure 2.20*
"Harrar with a sinjab pattern."
Prussin, Labelle. 1995. African Nomadic Architecture : Space, Place, and Gender. Washington: Smithsonian Institution Press : National Museum of African Art.

90 *figure 2.21*
"Section of a harrar with an iskujoog pattern. Drawing after a photograph."
Prussin, Labelle. 1995. African Nomadic Architecture : Space, Place, and Gender. Washington: Smithsonian Institution Press : National Museum of African Art.

90 *figure 2.22*
"Kebed with a jeedalley pattern."
Prussin, Labelle. 1995. African Nomadic Architecture : Space, Place, and Gender. Washington: Smithsonian Institution Press : National Museum of African Art. 4

92 *figure 2.23*
Nomadic Hut's Structural Components, Ink on mylar, 21x36" Drawing by author

94 *figure 2.24*
Nomadic Hut. Arabsiyo, Somaliland photograph taken by author

96 *figure 2.25*
The hut's components and morphology Arabsiyo, Somaliland photograph taken by author

98 *figure 2.26*
The hut's components and morphology Arabsiyo, Somaliland photograph taken by author

100 *figure 2.27*
Unrolling the 'kebed', Arabsiyo, Somaliland photograph taken by author

102 *figure 2.28*
Unrolling the 'kebed', Arabsiyo, Somaliland photograph taken by author

3.0_Navigating Through Unfamiliar Landscapes

104 *figure 3.0*
View outside the caves of Laas Geel photograph taken by author

106 *figure 3.1*
Journey Map _ Traveling East: Laas Geel, Berbera & Sheikh drawing by author

108 *figure 3.2*
Outside the caves of Laas Geel photograph taken by author

109 *figure 3.3*
Within Laas Geel photograph taken by author

110 *figure 3.4*
Cave paintings of Laas Geel
photograph taken by author

112 *figure 3.5*
Location sites of cave painting
Guide to the Laas Geel Cave Paintings in Somaliland 2018. Once in A Lifetime Journey. https://www.onceinalifetimejourney.com/once-in-a-lifetime-journeys/africa/guide-to-the-laas-geel-cave-paintings-in-somaliland/.

114 *figure 3.6*
Close-up of cave painting
photograph taken by author

114 *figure 3.7*
Close-up of cave painting
photograph taken by author

116 *figure 3.8*
Cave paintings of Laas Geel,
image depicting man and a bovine
photograph taken by author

118 *figure 3.9*
Close-up of cave painting,
image depicting a herd of bovines
photograph taken by author

120 *figure 3.10*
Close-up of cave paintings
photograph taken by author

121 *figure 3.11*
Within Laas Geel
photograph taken by author

122 *figure 3.12*
Rock Formations, Laas Geel
photograph taken by author

124 *figure 3.13*
Coastal Port, Berbera
photograph taken by author

126 *figure 3.14*
Coastal Port, Berbera
photograph taken by author

128 *figure 3.15*
Factory near the coastal city of Berbera
photograph taken by author

128 *figure 3.16*
Factory near the coastal city of Berbera
photograph taken by author

130 *figure 3.17*
On route to Sheikh, Somaliland
photograph taken by author

132 *figure 3.18*
On route to Sheikh, Somaliland
photograph taken by author

134 *figure 3.19*
Mountain Range. Sheikh, Somaliland
photograph taken by author

136 *figure 3.20*
Roadside religious sign. Sheikh, Somaliland
photograph taken by author

136 *figure 3.21*
Tourist lodge under construction.
Sheikh, Somaliland
photograph taken by author

138 *figure 3.22*
Grazing goats. Sheikh,Somaliland
photograph taken by author

138 *figure 3.23*
Grazing goats. Sheikh,Somaliland
photograph taken by author

140 *figure 3.24*
Mountain Range, Sheikh
photograph taken by author

142 *figure 3.25*
Highest peak, Mountain Range. Sheikh, Somaliland
photograph taken by author

144 *figure 3.26*
Journey Map_Traveling West: Arabsiyo, Gabiley & Borama,
illustrated by author

146 figure 3.27
Papaya trees, Arabsiyo, Somaliland.
photography taken by author

148 figure 3.28
Metal roofing on a 'riig' dug well. Arabsiyo, Somaliland
photograph taken by author

148 figure 3.29
looking down a 'riig' dug well. Arabsiyo, Somaliland
photograph taken by author

149 figure 3.30
Greenhouse. Arabsiyo, Somaliland
photograph taken by author

150 figure 3.31
Agricultural fields. Arabsiyo, Somaliland
photograph taken by author

152 figure 3.32
Agricultural fields. Arabsiyo, Somaliland
photograph taken by author

154 figure 3.33
Residential area. Gabiley, Somaliland
photograph taken by author

156 figure 3.34
Residential area. Gabiley, Somaliland
photograph taken by author

156 figure 3.35
Residential area. Gabiley, Somaliland
photograph taken by author

158 figure 3.36
Central Market. Gabiley, Somaliland
photograph taken by author

160 figure 3.37
Goat Grazing. Borama, Somaliland
photograph taken by author

162 figure 3.38
Make-shift huts. Borama, Somaliland
photograph taken by author

162 figure 3.39
Residential area. Borama, Somaliland
photograph taken by author

164 figure 3.40
Residential area. Borama, Somaliland
photograph taken by author

166 figure 3.41
Residential area. Borama, Somaliland
Photograph taken by author

4.0 _ Traces of Water

168 figure 4.0
Outskirts, Hargeisa, Somaliland
photograph taken by author

170 figure 4.1
Outskirts, Hargeisa, Somaliland
photograph taken by author

172 figure 4.2
Outskirts, Hargeisa, Somaliland
photograph taken by author

174 figure 4.3
Sporadic Rainfall. Borama, Somaliland
photograph taken by author

175 figure 4.4
Polluted River Bed. Hargeisa, Somaliland
photograph taken by author

176 figure 4.5
Polluted River Bed. Borama, Somaliland
photograph taken by author

178 figure 4.6
Water & necessity, on route, Daarbuduq
photograph taken by author

180 figure 4.7
Method of water distribution using
"gaari dhameer" donkey car in Hargeisa, Somaliland
photograph taken by author

182 *figure 4.8*
Filling up a residential water tank. Hargeisa, Somaliland
photograph taken by author

184 *figure 4.9*
Method of water distribution using "gaari dhameer" donkey car in Hargeisa, Somaliland
photograph taken by author

186 *figure 4.10*
Methods of Water Collection
illustrated by author

188 *figure 4.11*
Methods of Water Collection: Dug/Shallow Well
illustrated by author

190 *figure 4.12*
Methods of Water Collection: Seasonal Spring
illustrated by author

192 *figure 4.13*
Methods of Water Collection: Swallow Hole
illustrated by author

194 *figure 4.14*
Methods of Water Collection: Berkad
illustrated by author

196 *figure 4.15*
Methods of Water Collection: Water/Earth Dam
illustrated by author

198 *figure 4.16*
Methods of Water Collection: Borehole
illustrated by author

200 *figure 4.17*
Water Harvesting & Irrigation
illustrated by author

202 *figure 4.18*
Information about water storage locations provided by Somalia Water and Land Information Management
illustrated by author
"FAO SWALIM: Somalia Water and Land Information Management Live Water-Sources Map Page: FAO SWALIM: Somalia Water and Land Information Management."

5.0_ Repurposing Infrastructural for Places of Gathering

204 *figure 5.0*
Dry river bed. Gabiley, Somaliland
photograph taken by author

206 *figure 5.1*
Rocky path. Laas Geel, Somaliland
photograph taken by author

208 *figure 5.2*
Pozzo di San Patrizio. Orvieto, Italy.
SAINT PATRICK'WELL - Onetcard, Monuments Orvieto 2015. Onetcard. http://www.onetcard.net/en/saint-patrick-welll/.

208 *figure 5.3*
Chand Baori step-well located Abhaneri, Rajasthan, India.
Doron. 2003. English: Chand Baori (Stepwell), Abhaneri, Rajasthan, India. https://commons.wikimedia.org/wiki/File:ChandBaori.jpg.

210 *figure 5.4*
Camels on route. Outskirts, Hargeisa
photograph taken by author

210 *figure 5.5*
Dry river bed, on route to Arabsiyo
photograph taken by author

212 *figure 5.6*
River bed, on route. Hargeisa, Somaliland
photogtaph taken by author

212 *figure 5.7*
Rock formation. Gabiley, Somaliland
photogtaph taken by author

214 *figure 5.8*
Map of the town, Gabiley. Diagram by author. Satellite image from Bing Maps. 2020

figure 5.9
Map of the proposed site,
216 *located in Gabiley, Somaliland.*
Diagram by author.
Satellite image from Bing Maps. 2020

figure 5.10
217 *Qalax Mosque. Gabiley, Somaliland*
photograph taken by author

figure 5.11
218 *Qalax Mosque. Gabiley, Somaliland*
photograph taken by author

figure 5.12
218 *Qalax Secondary School. Gabiley, Somaliland*
photograph taken by author

figure 5.13
219 *'Laag Barako' during dry season of 'Hagaa'.*
Gabiley, Somaliland, photograph taken by author

figure 5.14
220 *Bridge over 'Laag Barako'. Gabiley, Somaliland*
photograph taken by author

figure 5.15
222 *Map illustrating geology, soil & climate*
conditions within Somaliland, drawn by author

figure 5.16
224 *Sketch: rock cluster found in Gabiley, Somaliland*
illustration by author

figure 5.17
224 *Sketch: directionality and striations*
found on rock texture
illustration by author

figure 5.18
225 *Rock formation, "Dagax Arab" Gabiley, Somaliland*
photograph taken by author

figure 5.19
226 *Rock formation, "Dagax Arab" Gabiley, Somaliland*
photograph taken by author

figure 5.20
228 *Rock formation, "Dagax Arab" Gabiley, Somaliland*
photograph taken by author

figure 5.21
Image of Well #7. The area for the proposed
intervention
photo taken by FAO SWALIM: Somalia Water and
230 *Land Information Management "FAO SWALIM: Somalia Water and Land Information ManagementLive Water-Sources Map Page: FAO SWALIM: Somalia Water and Land Information Management."*

figure 5.22
Information about dug wells and statics of
232 *occupancy and use provided by Somalia Water and*
Land Information Management
diagram by author

figure 5.23
Dug well #1.
233 *"FAO SWALIM: Somalia Water and Land Information Management Live Water-Sources Map Page: FAO SWALIM: Somalia Water and Land Information Management."*

figure 5.24
Dug well #2.
233 *"FAO SWALIM: Somalia Water and Land Information Management Live Water-Sources Map Page: FAO SWALIM: Somalia Water and Land Information Management."*

figure 5.25
Dug well #3, water pump resting on the trunk and
branches of trees.
234 *"FAO SWALIM: Somalia Water and Land Information Management Live Water-Sources Map Page: FAO SWALIM: Somalia Water and Land Information Management."*

figure 5.26
Dug well #4.
234 *"FAO SWALIM: Somalia Water and Land Information Management Live Water-Sources Map Page: FAO SWALIM: Somalia Water and Land Information Management."*

figure 5.27
Dug well #5&6.
235 *"FAO SWALIM: Somalia Water and Land Information Management Live Water-Sources Map Page: FAO SWALIM: Somalia Water and Land Information Management."*

figure 5.28
Close-up of dug well #5.
235 *"FAO SWALIM: Somalia Water and Land Information Management Live Water-Sources Map Page: FAO SWALIM: Somalia Water and Land Information Management."*

figure 5.29
Dugwell #7.
Photograph taken by Mahamood Mahamed
236 *"FAO SWALIM: Somalia Water and Land Information Management Live Water-Sources Map Page: FAO SWALIM: Somalia Water and Land Information Management."*

figure 5.30
238 *Design intervention: plan*
drawn by author

figure 5.31
240 *Design intervention: interior space*
drawn by author

figure 5.32
242 *Design intervention: exterior landscape*
drawn by author

figure 5.33
244 *Design intervention: entrance*
drawn by author

figure 5.34
245 *Design intervention: section*
drawn by author

figure 5.35
246 *Design intervention: exploded axonometric*
drawn by author

figure 5.36
248 *Design intervention: spiral staircase*
drawn by author

figure 5.37
250 *Design intervention: interior entrance*
drawn by author

6.0_ Iterative Process Within Design

figure 6.0
252 *Iteration of a community center, section*
illustrated by author

figure 6.1
254 *Iteration of a community center, exterior view*
illustrated by author

figure 6.2
256 *Iteration of a community center, interior space*
illustrated by author

figure 6.3
258 *Plan of a community center*
illustrated by author

figure 6.4
258 *Iteration of pavilion*
sketch by author

figure 6.5
260 *Social difference in the city of Hargeisa*
Sketch by author

figure 6.6
260 *Huts components and foundation analysis*
sketch by author

figure 6.7
262 *Nomadic Hut, Rural Outskirt*
Hargeisa, Somaliland
photograph taken by author

figure 6.8
263 *Nomadic Passage*
sketch drawn by author

Introduction:

Compelled by Curiosity

Africa, as a continent, has always fascinated me. I've been intrigued by the magnitude of its wonders, the mystery and beauty manifested within each country. It was my curiosity about my roots that instilled the urge for me to establish a sense of identity while finding my bearings. It was also the East African countries I've visited and lived in; Both Rwanda in 2017 and Tanzania in 2018. These opportunities enlightened me, allowing my perception and passion for the continent to grow immensely. These trips inspired me, where I summed up enough courage to venture into Somaliland for the first time in the summer of 2018. Automatically I knew and felt that this would be a unique experience compared to my previous trips. The landscape was different, warm tones in the horizon along with strong winds left trails of both familiar scents and scattered sand. The culture was both relaxed and spontaneous, which translated humorously to the actions of people



figure 0.1

Map depicting visited areas within East Africa

iIlustrated by author

and animals within the cities. I was fascinated by the proximity and divide between those that were considered less fortunate compared to those living in wealthy areas. I became more accustomed to the expressions of everyday life within the fabric of the town, where I found a particular interest in the beautiful nature of temporary shelters in underrepresented communities.

My first trip sparked my interest in nomadic culture, especially the idea of constantly searching for a suitable place that could sustain oneself while supporting the demands of a growing family. In Somaliland, the nomads living in temporary huts in the city had constructed them alongside sedentary residential compounds using amalgamated scavenged and salvaged materials . The nomads would dress their urban huts and cover them with bright, colorful fabric sheets and objects such as plastic bags and scrap pieces of bark. What others viewed as highly insignificant and appalling I considered with high aspirations.

Inquired Longing

It was curiosity that uplifted me, pushed me outside my known confinement of assurance; it was those piercing questions about who I was in relation to the acceptance of others around me that gave me the courage to address and tug on forgotten roots. Lifting and removing striated layers of soil that surrounded it. Leaving a trace on the ground so deep that it marked a profound sense of affirmation; that instilled a force so strong the earth recognized the strength of my footprints.

I find myself in the land of my ancestors because I had the urge to know, to have the air and dirt embrace the pores on my skin. I wanted to know, and it was my curiosity that sparked this ongoing search for connectivity and approval.

The need to look my people in the eye and feel that sentimental connection just through the gesture of a smile. Where all the elements embraced you and conversed with the curves in your figure, It was only then that you knew you were home.

In the summer of 2019, I returned for a longer duration of seven weeks. I was fortunate enough to see the beauty of the people and the country on a much broader scale. I am thankful to those who assisted me along my journey, for the remarkable places I've visited and to the people that helped me along the way. "Nomadic Passage: Water Conservation and Land Preservation" looks closely into the lives of nomads and pastoralists within Somaliland.

The opening chapters address the social, economical, and environmental affairs that shape nomadic narratives and culture to this day. The subsequent chapters look into my journey as I begin to remap and document my footprints within the unexplored landscape of Somaliland. In some metaphorical way, I compare my trip similar to a nomadic journey, moving from place to place in search of my ideal sense of belonging. A place where my existence is validated and not skeptically overlooked. . The final chapters address the natural flow and course of water as a vital source for sustaining communities and deprived landscapes. I aimed to develop a pavilion that emphasizes and highlights these passages, while giving a profound voice to every element.



figure 0.2

On route, Hargeisa, Somaliland

photograph taken by author

Methodologies:

Thinking Through Drawing

Drawing has always been my primary tool for thinking; the images came more fluidly than words. It allowed me to process a complex array of data that existed on multiple scales and dimensions. The act of drawing became an open dialogue with all my senses, where I could easily rationalize and consolidate the plethora of information presented around me. During my second trip back to Somaliland, where I, as an outsider, viewed the nature of the country in-depth, I relied on methods of drawing to familiarize myself with a nation entirely unknown. It was only through the act of drawing, I was able to make the intangible tangible. My thoughts took on another dimension, where I could process social, cultural cues, artifacts, teachings, and rituals forgotten from the past. Through these mechanisms, I could preserve and embed certain events within my memory. Documenting these experiences by hand was challenging, though it was a satisfying task, especially when it came down to the sentiments of each stroke. Thoughts sparked creative energy that surged through the gestures of my hands, instilling meaningful insights into the places I've visited.

Time throughout the day immediately slowed down, where I began to analyze everything at varied paces. The reactions of people around me became in tune with my

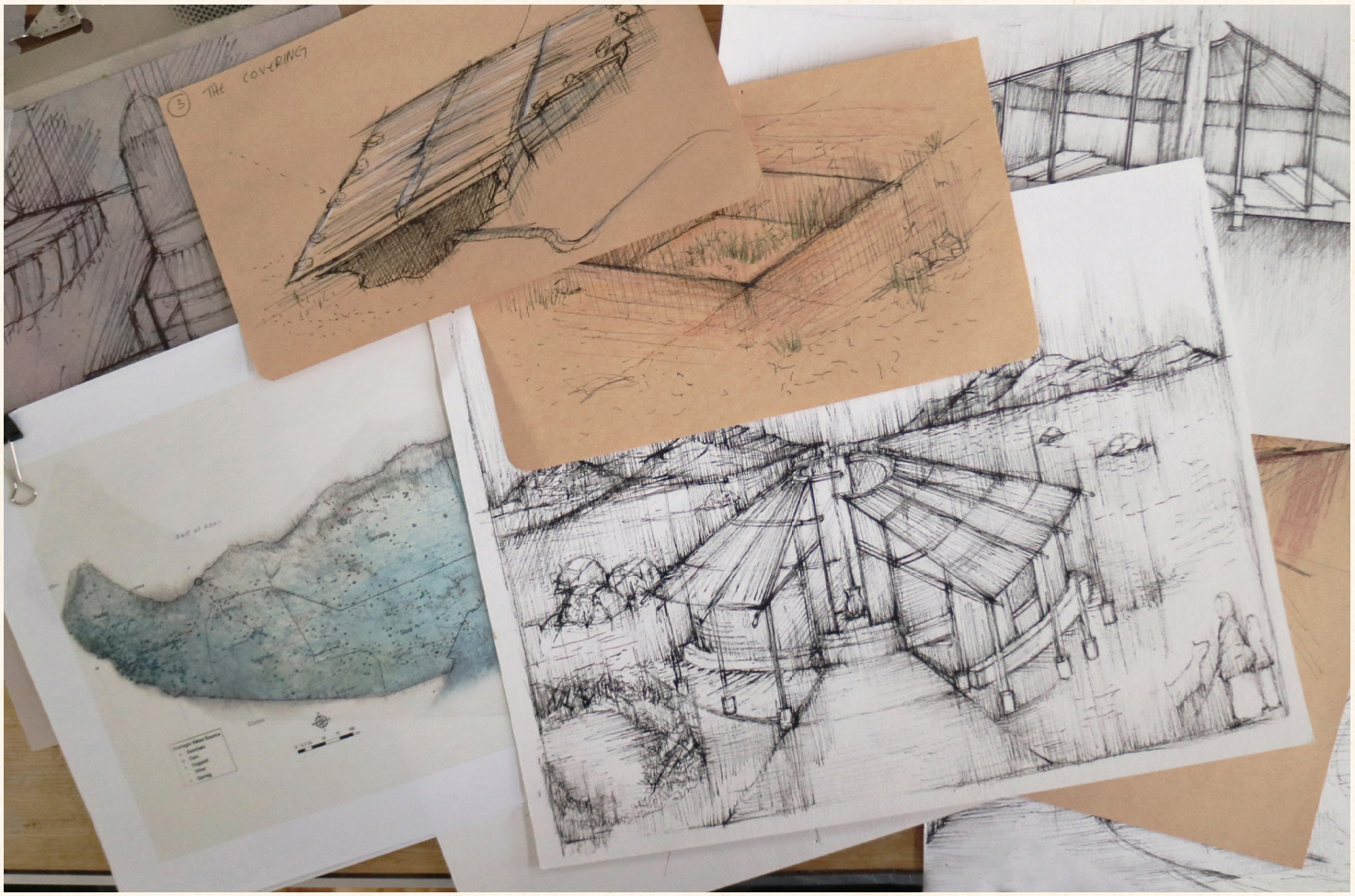


figure 0.3

Sketches & drawings by author

developing thoughts and internal emotions. The intuitive act of correlating spatial relationships gradually caused my mind and hand to merge into one. It allowed me to mediate the connections between people and their respective landscapes. Somaliland and Somalia are both countries with vast resources of creativity and cultural reverence, mainly preserved through images, oratory, and poetry. The cave paintings of Laas Geel, situated along the outskirts of Hargeisa, date back to 9000-3000 B.C. (figure 0.3) and are preserved due to their concealed, elevated location. The caves depict images from earlier pastoral life, illustrating the rituals and ceremonies that took place then. The status and conditions of these paintings firmly confirmed the importance of drawing as a tool to document the change in history over time. These works allowed me to see how vital and powerful such a tool was in reshaping and instilling a sense of beauty within the unrecognized state.

Drawing is a universal language; it requires little explanation but brings forth an immense level of understanding. People have always documented their histories and existence within their landscapes, whether it'd be through artifacts, such as masks, or preserved cave paintings. It is through these firm methods of documentation that allow us to reinterpret and re-imagine the lifestyles they lived. Solidifying the past and expanding our capacity for recollection, where environmental elements become tools for anchoring cultural memory.



figure 0.4

Cave paintings of Laas Geel, Hargeisa, Somaliland

photograph taken by author

Methodologies:

On Photography

Throughout my research trip, I would always venture out into the busy streets of Jigjiga Yar, Hargeisa, with my camera, never once leaving it behind. It remained hidden under my 'jilbab' and 'chelmad', which is a name used for scarves that drape over the entire body, only displaying the face and hands. I managed to tuck it away and conceal it in a manner that did not draw any attention. These colorful scarves and patterned, printed dresses called 'sheed' were the main article of clothing I took on my trip. It was quite crucial for me to only travel with Somali items of clothing, leaving my western-based garments behind. Having my camera on me at all times was essential. I quickly learned that photography and its associated culture were not at all viewed in a similar light as in Western societies. Everyone looked upon it mysteriously. Most people assumed that the main objective of photo documentation was a chance to profit financially. Therefore it was heavily frowned upon to take photos of their surroundings without any apparent purpose and consent. In short, it was considered weird to walk around with a camera.



figure 0.5

Photo of author in Gabiley, Somaliland
photograph taken by Yasin Khadar

And in my case, it emphasized my status as a foreigner, leaving a strange impression on the local inhabitants. I did my best to assimilate as I dearly wanted to merge into the social and urban culture of the country.

I saw something new every day, whether it was on my long journeys out east to Berbera or just a stroll down the block near the place I stayed. These spontaneous events added to the overall excitement of taking photographs, especially the fact that I could never really anticipate what would happen. I would always plan out my schedule for the week, though I was never fully equipped for the events that would occur and unfold along the course. These spontaneous moments within the city were always raw and unfiltered. For example, there were days where herds of camels would walk freely amidst the city streets and pedestrian traffic. There were also genuine moments in witnessing the struggle of internally displaced people (IDPs) regarding their living conditions amongst the disarray of the city. I found that through photography, I was able to document both the hectic and tranquil occurrences in a poetic manner. It gave me the ability to extract numerous and meaningful moments, like gems that lingered within my mind and echoed into my remembrance.



figure 0.6

Inside the caves of Laas Geel. Hargeisa, Somaliland

photograph taken by author

01

Seeking Recognition After Crisis





figure 1.0

Jigjiga Yar, Hargeisa, Somaliland

photograph taken by author

1.1 _ Understanding Somaliland and Its Crises

Somaliland is a country known for its tension between tribes, the collapse of a weak government and the on-going dilemma of civil war. It is a self-declared state, yet the world considers it an autonomous region of Somalia. Somaliland is a country surrounded by unsettling forces of nature that render its population helpless against the impacts of climate change. The country is plagued with issues from drought to corrupt piracy along the coastal front and radical group conflict originating along the outskirts. It has a population of around 3.5 million people, consisting of individuals that are both physically and internally displaced. These nomadic tribes are always on the move and compile remnants of leftover materials in constructing their huts, trying to make use of found objects to establish set parameters for their territory.



figure 1.1
Residential area. Jigjiga Yar, Hargeisa, Somaliland
photograph taken by author

"By the 1930s, the British presence had extended to other parts of British Somaliland. Growth in commercial trade motivated some livestock herders to subsequently leave the pastoral economy and settle in urban areas."[4]

Colonization drastically affected the history and landscape within Somalia, introducing settlements and urban typologies from the late 1800s into the mid-1900s. Somaliland was colonized by the British and was known as British Somaliland from 1920-1930. Somalia and Eritrea, on the other hand, were colonized by the Italians while Djibouti by the French. Italians occupied Ethiopia, but it remained one of the countries within Africa left uncolonized. Colonization played a significant role in terms of subdividing neighboring countries and increased polarities between disputed areas. Amid such harsh conditions, nomadic huts sprawled over the rural landscapes and extended towards the edges of cities.

4 *Samatar, Abdi Ismail The State and Rural Transformation in Northern Somalia, 1884–1986, Madison: 1989, University of Wisconsin Press, pp. 52-53*

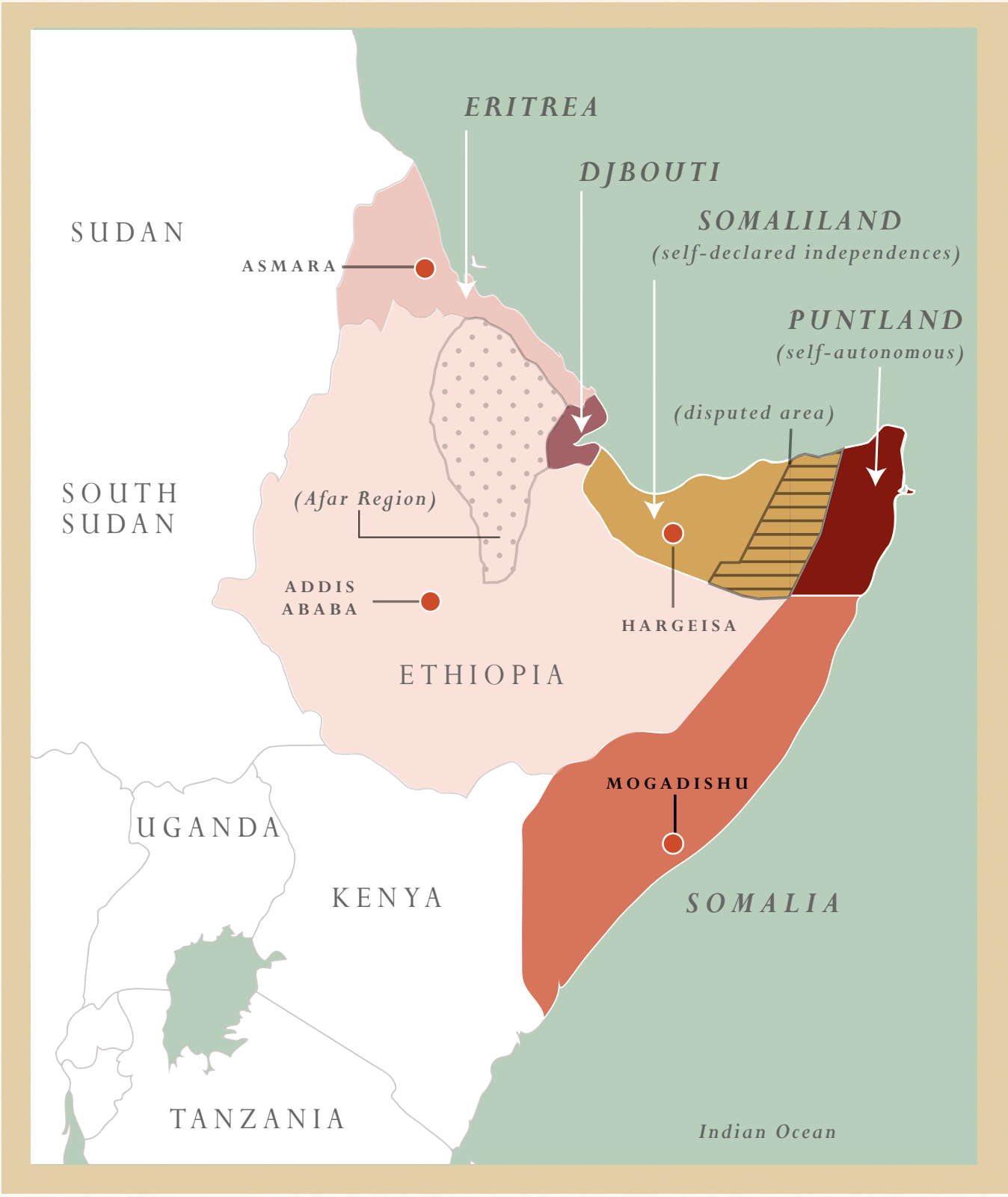


figure 1.2
Map of regions within 'The Horn of Africa' illustrated by author

Environment & Climate

"Generally, Somaliland has an arid to semi-arid climate, with four seasons. The first main rainy season of Gu occurs between April and June, when around 50-60% of rain falls. The second rainy season is called Deyr (from August to November) and accounts 20-30% of total rainfall. The two dry seasons in are Jilaal and Hagga, which occur between December and March and July and August, respectively."[5]

The map illustrates prime areas affected by extreme levels of drought, demonstrating how these impacted areas are exponentially growing with no potential benefit or solution to ease the tension. The chart in Figure 1.4 indicates the amount of rainfall received in a town called Gabiley, near the capital of Hargeisa, starting from the year 2007-2016. The effects of this harsh climate persist to this day, where areas continue to approach borderline drought. The result of such a crisis is the image of Somalia painted on many minds as a country riddled with varying issues such as

5 *Abdulkadir G (2017) Assessment of Drought Recurrence in Somaliland: Causes, Impacts and Mitigations. J Climatol Weather Forecasting 5: 204. doi:10.4172/2332-2594.1000204*

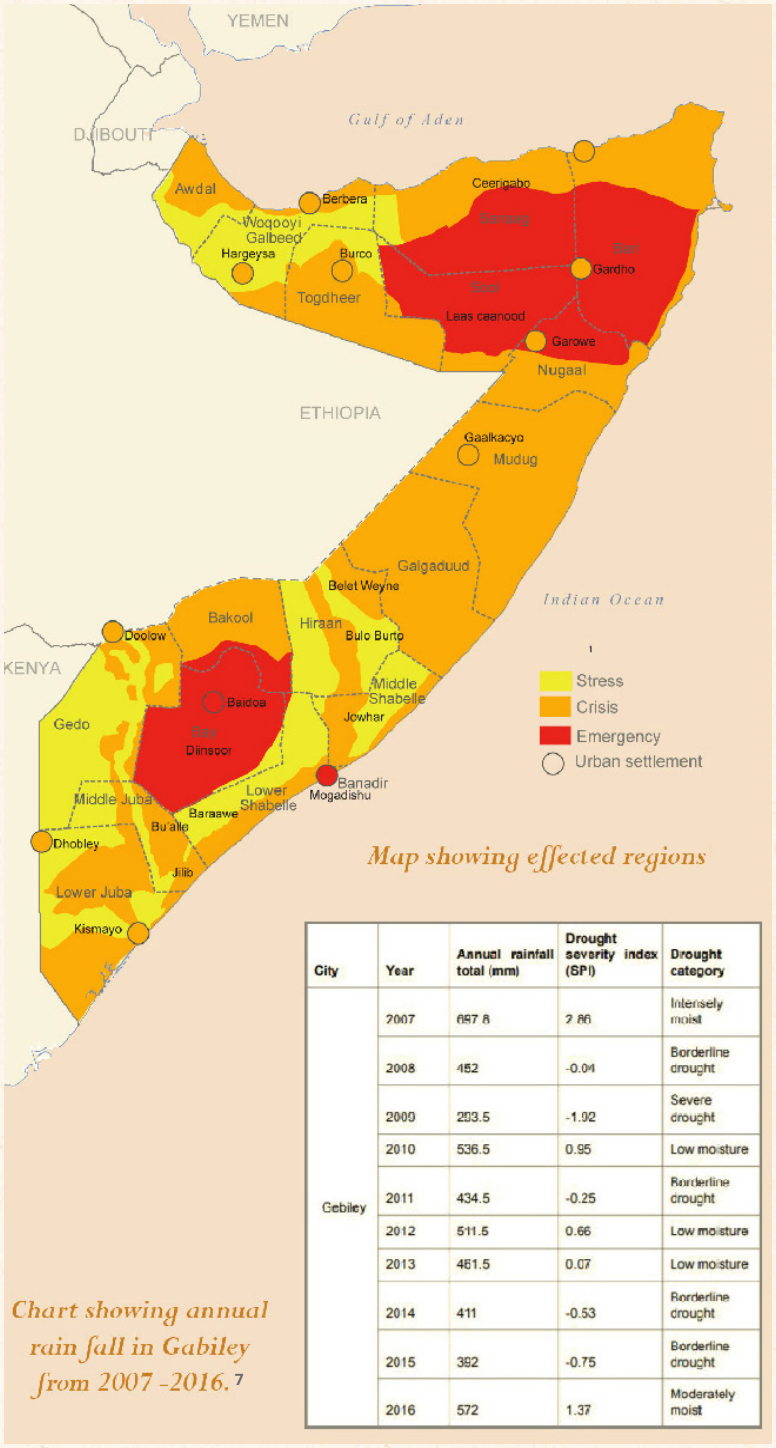


Chart showing annual rain fall in Gabiley from 2007 -2016.[7]

City	Year	Annual rainfall total (mm)	Drought severity index (SPI)	Drought category
Gebiley	2007	697.8	2.86	Intensely moist
	2008	452	-0.04	Borderline drought
	2009	293.5	-1.92	Severe drought
	2010	536.5	0.95	Low moisture
	2011	434.5	-0.25	Borderline drought
	2012	511.5	0.66	Low moisture
	2013	461.5	0.07	Low moisture
	2014	411	-0.53	Borderline drought
	2015	392	-0.75	Borderline drought
	2016	572	1.37	Moderately moist

figure 1.3

Environmental Crisis: Map showing regions affected by drought

6 *"IPC Map", Somalia Acute Food Insecurity. April 14, 2010. Accessed October 15th, 2018. https://www.fsnau.org/ipc/ipc-map.*

7 *Ibid.,21.*

starvation, food insecurities, unmanaged government, poor waste management, and illegal marine practices. These images eradicate any hope for such a nation to ever be in a state of stability and prosperity.

Situated near residential settlements are nomadic style makeshift huts built by internally displaced people. "An estimated 10,000 - 12,000 displaced families live in Hargeisa, constituting about 15 percent of the city population".[8] For instance, temporary dwellings known as "buul or aqal" (Somali word for traditional home) would emerge onto the city fabric, where their livelihood consisting of camels and goats would encroach onto residential home's front steps. These inhabitable niche spaces merged on top of one another, where both classes lived side by side.

"Somalia's modern history is a tale of independence, prosperity and democracy in the 1960s, military dictatorship in the 1970s and 1980s - followed by a desperate decline into civil war and chaos almost ever since."[9]

8 *Hargeisa - First Steps Towards Strategic Urban Planning a. https://unhabitat.org/books/hargeisa-first-steps-towards-strategic-urban-planning/.*

9 *"Somalia: The Forgotten Story.", https://www.aljazeera.com/programmes/aljazeeraworld/2016/10/somalia-forgotten-story-161027115655140.html.*



figure 1.4
Suburbs, Hargeisa, Somaliland
photograph taken by author

The military dictatorship in the 70'S by General Siad Barre ended the democratic government within Somalia. In 1977, Siad Barre began the Ogaden wars, trying to obtain the Somali dominated region back from Ethiopia.

Somaliland gained independence in 1991, where those who fled seeking refuge during the civil war began coming back, in hopes to strengthen their new nation. There are around 1.96 million people who currently live in the capital city Hargeisa where the city limit now stretches in every direction. The increase in population places a heavy demand on essential necessities, such as food and water, where the availability of basic services and strong infrastructure are left underdeveloped.

Most displaced families lack financial support from their government, living in unhygienic and unserviced areas. Necessities such as health care and employment opportunities are limited. Somaliland's rapid expansion causes some internally displaced people to find themselves stuck in a system and framework that doesn't allow for social and economic growth.



figure 1.5

Waste-management in the suburbs of Hargeisa, Somaliland

photograph taken by author

1.2 _ Reconciling Nomadic Traditions

Due to environmental stresses, the abundant landscapes that existed long ago in the past have changed quite drastically. Vegetation is now guarded in the city today and protected at all costs, either fenced off with brick or wire cage enclosures (figure 1.8). The main objective is to limit overgrazing by animals roaming idly or those belonging to large herds. Within the streets of Hargeisa, there are pedestrian, vehicular, and also animal traffic. Flocks of goats are everywhere, roaming, climbing, and eating everything at reach.

It seems unusual that long ago, the Sub-Saharan desert was once green with vegetation. Herds belonging to a series of nomadic and pastoralist tribes have caused the landscape to change due to overgrazing. The state of existing soil has significantly been left depleted and not restored. The pursuit of sustenance has always become a high priority for many nomads throughout time. Each domicile requires a tactile and dynamic way to become collapsible, utilizing all remnants within the environments; anything from trees to leathered skins are tied together to support the complexities of their built world.



figure 1.6
Playful goats in the suburbs of Hargeisa, Somaliland
photograph taken by author



figure 1.7
Method of protecting trees from being eaten by goats. Hargeisa, Somaliland
photograph taken by author



The Tekna are a collective federation of tribes that are concentrated in southwest Morocco.

Tekna

Image 6:

Image 5:

Tuareg

The Tuareg - "The people of the veil" - inhabiting a vast majority of Western Sahara

NOMADIC TRIBES: SUB-SAHARAN AFRICA

Transhumance **noun:** *the seasonal migration of livestock, and the people who tend them, between lowlands and adjacent mountains.*

The map draws similarities and differences in nomadic typologies w region of Sub-Saharan Africa; semi-arid, desert condition. It then f settlement patterns beginning from the East Coast of Somaliland u Morocco. It aims to understand shifts between set gender roles, look ritual routines that are carried out in a structural manner. It also

Image 1-6:

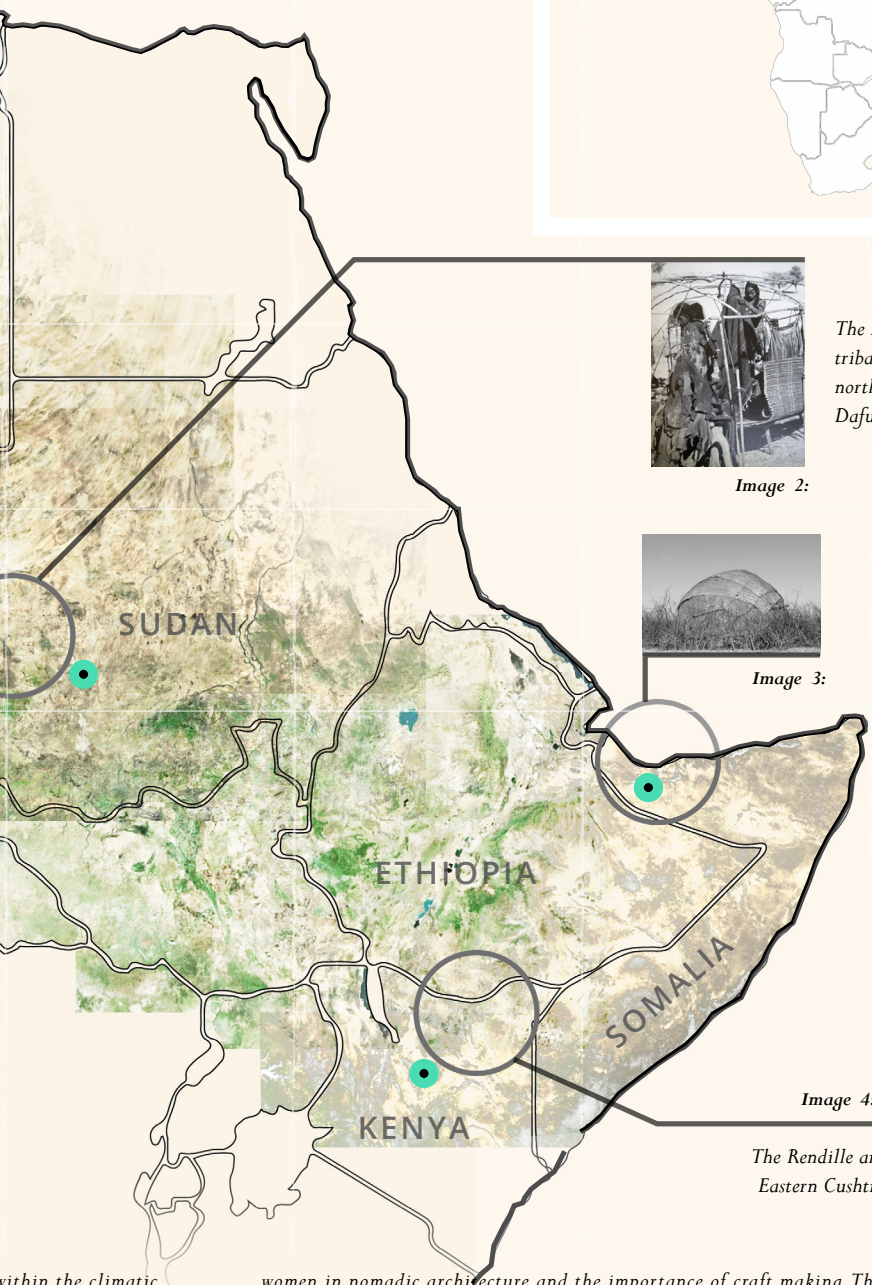
10 *Prussin, Labelle. 1995. African Nomadic Architecture : Space, Place, and Gender.Washington: Smithsonian Institution Press : National Museum of African Art.*

Tubu

Image 1:

The Tubu nomads inhabit the region around the Tibesti mountain range - Is the third largest nomadic group in French-speaking Africa





Mahria

Image 2:

The Mahria belong to the tribal federation of the northern Rizeigat within Dafur, Sudan.

Somali

Image 3:

The Somali's have developed a portable house known as the "aqal' which works in balance with its environment

Rendille & Gabra



Image 4:

The Rendille and the Gabra and are Eastern Cushtic camel pastoralists.

within the climatic further analyzes specific ntil the West Coast of ing at customs and addresses the role of women in nomadic architecture and the importance of craft making. Though nomadic tribes may differ along a spectrum, there lies the similarity of constantly searching for favorable land conditions to sustain themselves and their livestock. Pastoralist's livelihood amongst all tribes revolve around the meaning of transhumance.

"As little as 6,000 years ago, the vast Sahara Desert was covered in grassland that received plenty of rainfall, but shifts in the world's weather patterns abruptly transformed the vegetated region into some of the driest land on Earth."[11]

figure 1.8

Map of nomadic tribes along Sub-Saharan Africa illustrated by author

11 *Hargeisa - First Steps Towards Strategic Urban Planning a. https://unhabitat.org/books/hargeisa-first-steps-towards-strategic-urban-planning/.*





figure 1.9

Interior of a hut that uses discarded materials to create shading
Livestock Market, Hargeisa, Somaliland
photograph taken by author

1.3 _ Gendered Landscapes

Nomadic gender roles follow a specific jurisdiction, teachings, and rulings, that adhere to a hierarchical system that resonates and begins from the hut. This system classifies set tasks and responsibilities as either masculine or feminine, ensuring that their establishment is self-sufficient. Almost all aspects associated with the hut fall under the domain of women, beginning with its construction until its components are dismantled and packaged for moving purposes. They are responsible for preserving customs and passing them down to their offspring and future generations. When nomads venture outside the hut, there is a semi-public space marked by a radial fence of thorned acacia branches that enclose the entire perimeter, keeping their livestock in separate areas. After passing the borderline set by the acacia fence, a vast openness presents itself to every nomad. This space is dominated by men, where the act of venturing out to graze their animals became their daily quest.



figure 1.10

Pastoralist Moving. Borama, Somaliland

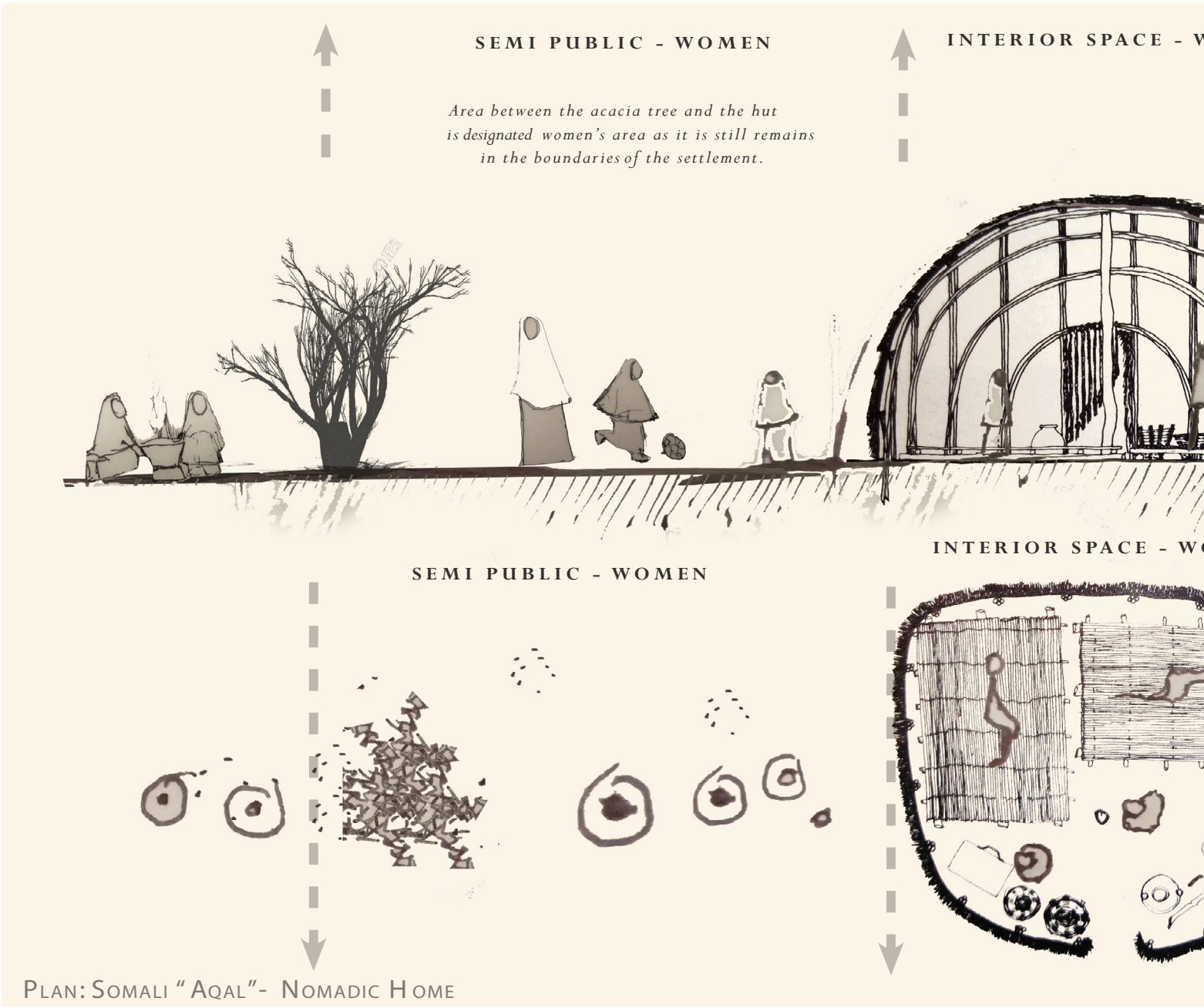
photograph taken by author



figure 1.11

A modern hut used for shading. Livestock Market. Hargeisa, Somaliland

photograph taken by author



PLAN: SOMALI "AQAL"- NOMADIC HOME

Thus, outside of the matriarchal and female spatial domain of the hut, beyond the settlement's fenced common space, "camel husbandry was an exclusively male area of work (even milking), as were sahan (scouting for suitable grazing and water supplies), safar (traveling to town to buy provisions, raashin), and defense."[12]

12 *Kapteijns, Lidwien. 1999. Women's Voices in a Man's World : Women and the Pastoral Tradition in Northern Somali Orature, C. 1899-1980, edited by Maryan Omar Ali. Portsmouth, NH: Heinemann*



figure 1.12
Nomadic Settlement: Gender Landscape, Plan & Section
illustrated by author

Image of the hut:

13 *Denyer, Susan. 1978. African Traditional Architecture : An Historical and Geographical Perspective. London : Heinemann, 1978:.*

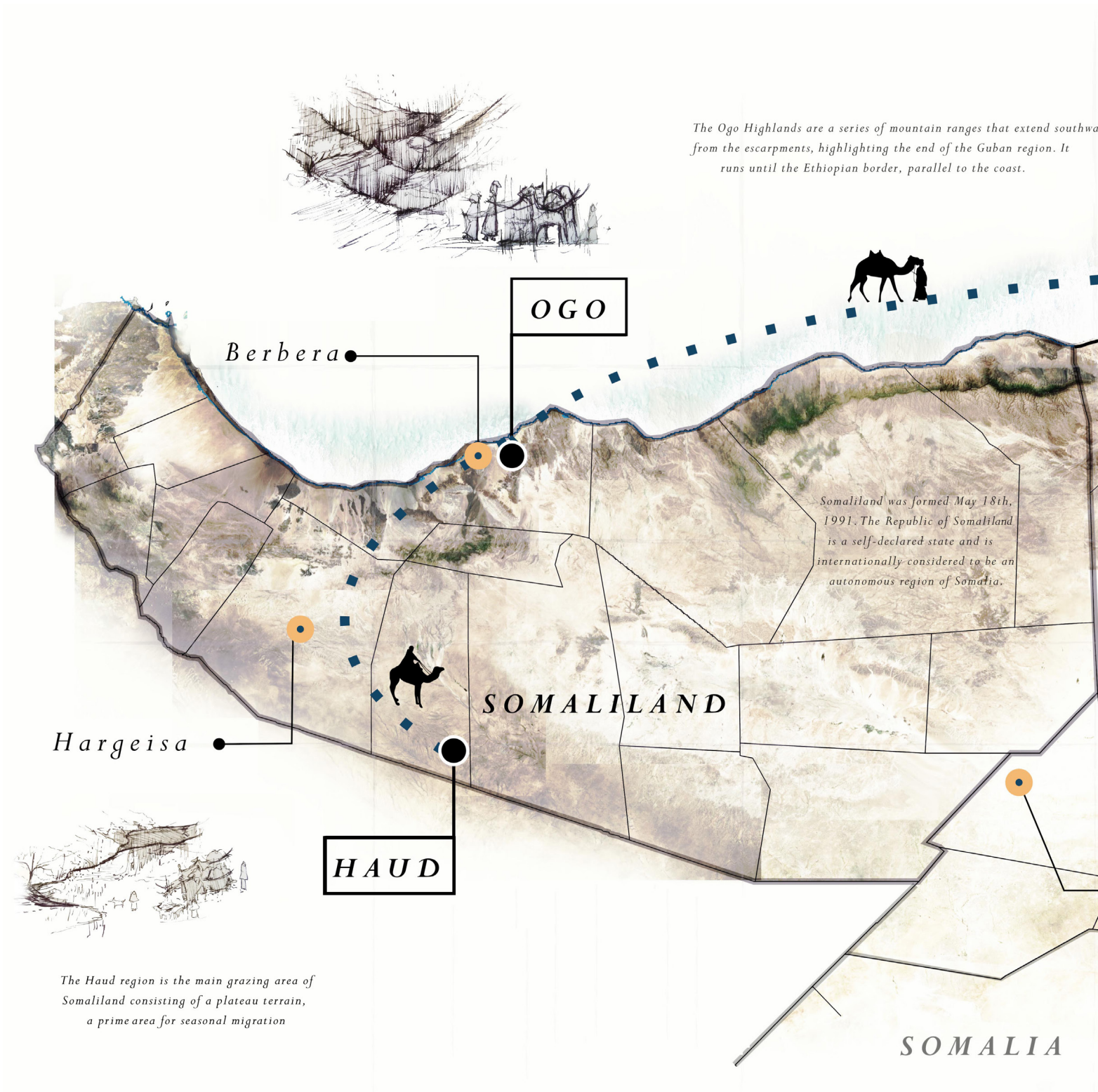
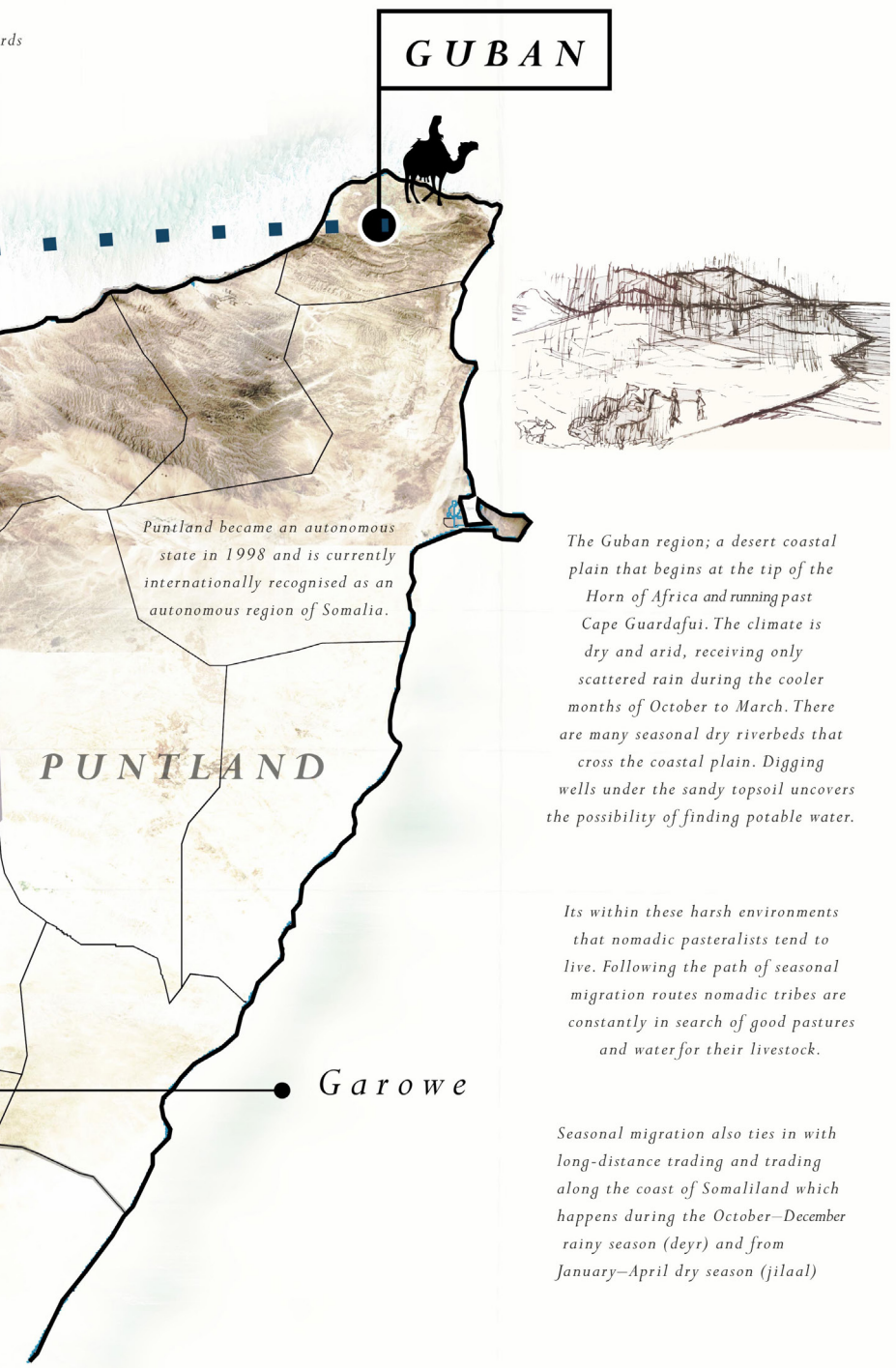


figure 1.13
Nomadic Migration Route (1,000-1850 AD)
Map illustrated by author

SOMALILAND 1000–1850 AD



Puntland became an autonomous state in 1998 and is currently internationally recognised as an autonomous region of Somalia.

The Guban region; a desert coastal plain that begins at the tip of the Horn of Africa and running past Cape Guardafui. The climate is dry and arid, receiving only scattered rain during the cooler months of October to March. There are many seasonal dry riverbeds that cross the coastal plain. Digging wells under the sandy topsoil uncovers the possibility of finding potable water.

Its within these harsh environments that nomadic pasteralists tend to live. Following the path of seasonal migration routes nomadic tribes are constantly in search of good pastures and water for their livestock.

Seasonal migration also ties in with long-distance trading and trading along the coast of Somaliland which happens during the October–December rainy season (deyr) and from January–April dry season (jilaal)

"It consists of diverse land systems: from the arid coastal strip (the Guban), almost treeless and covered only by scrub, to the coastal range, covered with different kinds of acacias and grasses (the Ogo), the undulating grassland to the south (the Haud). Somalis divide the year into four seasons, determined by the northwest and southeast monsoon winds. Gu (the major rainy season)and Deyr (a short rainy season) are the seasons of relative plenty, while Xagaa and Diraac (together constituting Jiilaal) are the seasons of drought and thirst."[14]

14 *Orwin, Martin. 1995."†B.W. Andrzejewski with S. Andrzejewski (Tr.): An Anthology of Somali Poetry. Ix, 113 Pp. Bloomington and Indianapolis: Indiana: Indiana University Press, 1993.*

1.4 _ A Pastoralists' Passion

Pastoralists take pride in their camels. They are incredibly versatile and beautiful creatures that have the ability to endure the harshest heats. In the dry arid climate of Somaliland, typical camels can go for long periods without having water, usually lasting for months. A standard camel usually draws energy from the fat stored within its hump, acting as its energy source, similar to having an extra tank of gas for one's car. Camels with deflated humps have gone without food or drink for quite some time, and as soon as they come into contact with water resources, their humps inflate back up over a couple of days.

"But when the drought comes, horned beasts will perish,
that is certain.
O you who tend ewes!
Remember, it's in camel-rearing that true profit lies"[17]

For pastoralists' camels are their prime source of income, they would normally sell their camel's milk and meat, as it is high in demand throughout the country. To put it in perspective, one camel costs around 1000USD. Typical pastoralist herds have around 10-30 stronger camels with larger herds of newborn camels along the way. The alternate view on prosperous well-being is illustrated through nomads and pastoralists' daily struggle as they tend to the needs of their camels. Their sustenance and what they live on is usually provided by their surroundings and what they have. They live by the notion of embodied wealth rather than the idea of instant materialistic wealth.

15 *Ibid., 24.*



figure 1.14
Camels grazing in the suburbs. Jigjiga Yar, Hargeisa, Somaliland
photograph taken by author



figure 1.15
Livestock Market. Hargeisa, Somaliland
photograph taken by author



figure 1.16
Camel herd, rural outskirts.
Hargeisa, Somaliland
photograph taken by author

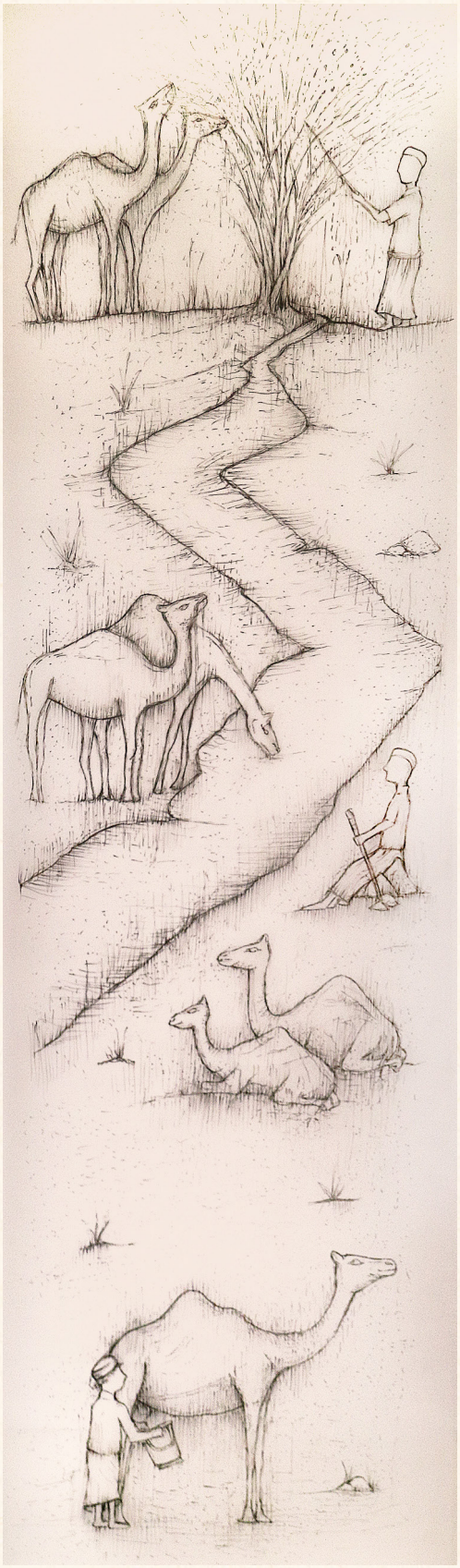


figure 1.17

"A Pastoralist's Passion" - ink on mylar - 6x36'', drawn by author

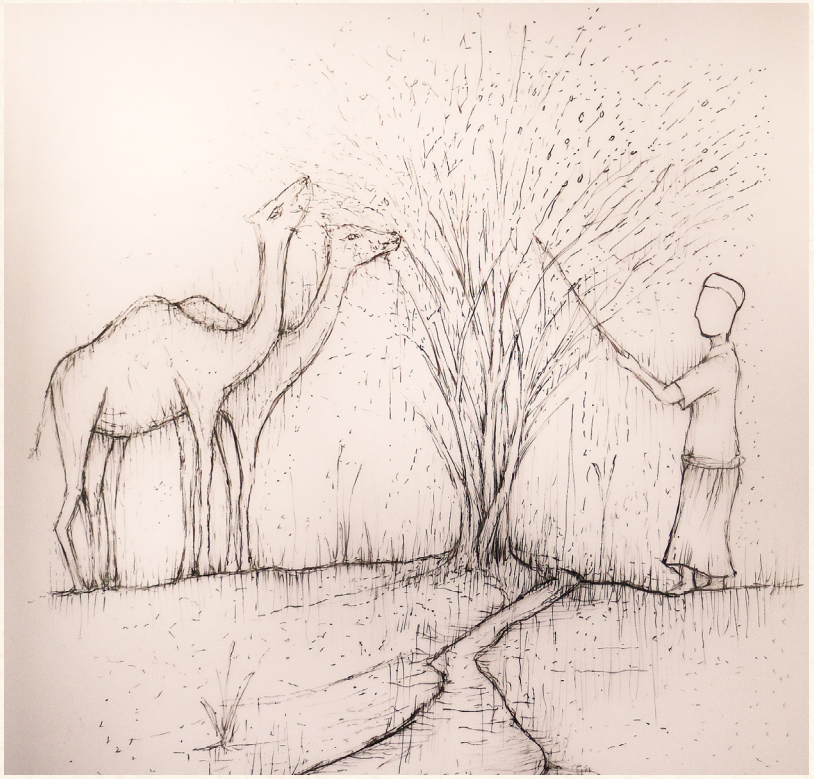


figure 1.18

Close-up (figure 1.18), Pastoralist tending to its herds

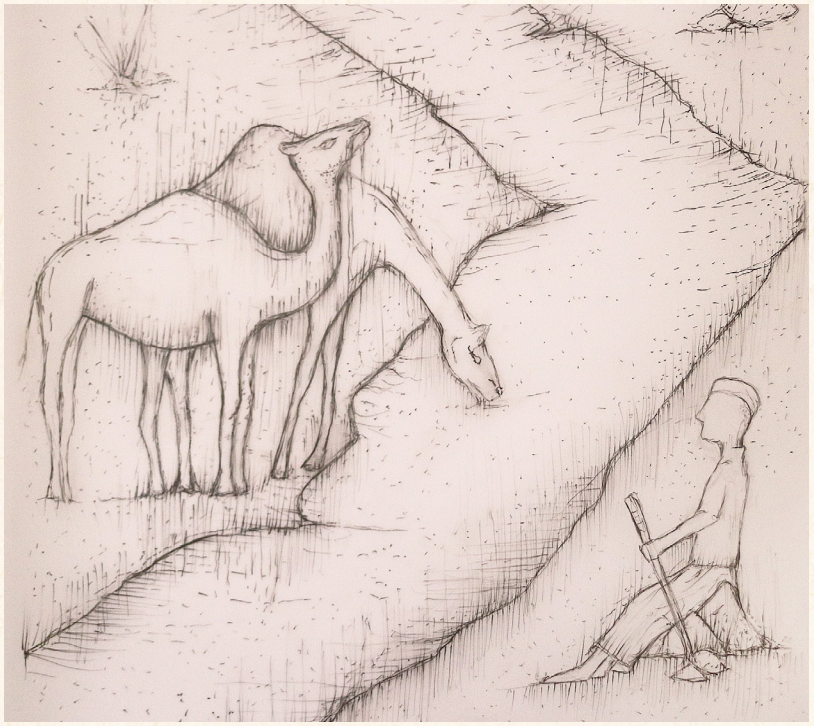


figure 1.19

Close-up (figure 1.18), Pastoralist watering camel



figure 1.20

Close-up (figure 1.18), Resting camels, mother and child

"A Somali may gather great wealth
Diamonds he may have and houses too,
He may even wear clothes of wool or fine white cloth , And sport a splendid turban -
But he has no legacy to leave behind him
Unless he rears the beasts whose necks bear wooden bells"[16]

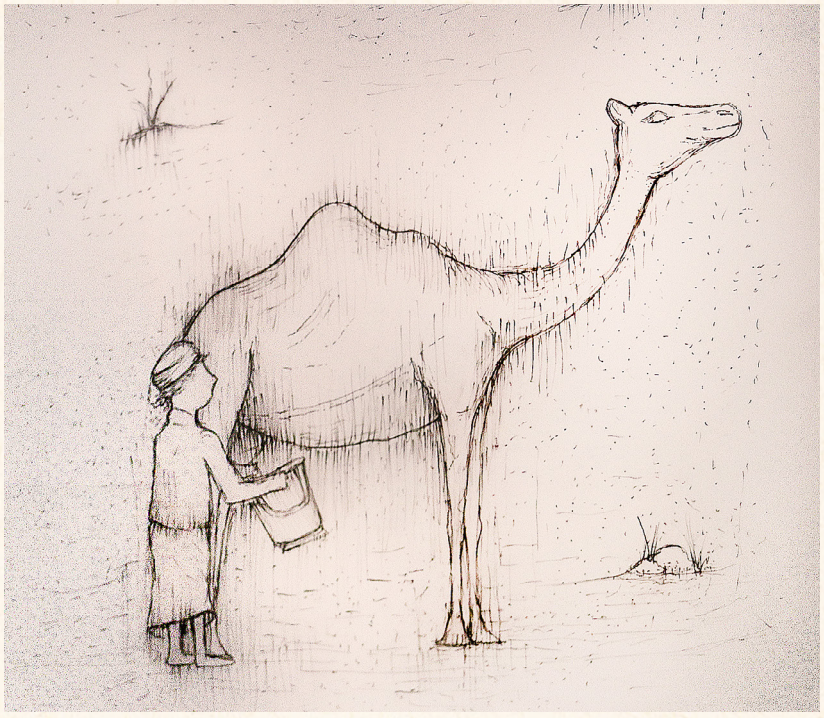


figure 1.21

Close-up (figure 1.18), Pastoralist milking a camel

" A man may spend his life taking his herd of camels back and forth from the wells to the grazing grounds, and these may be a hundred miles apart. Living his spare unrewarding and cruelly difficult life, even greater difficulties may befall him at any time. His stock may die of disease or thirst, his family may weaken and die from lack of food and water, or, after the rains, malaria may take a huge toll from his tribal group. Life is utterly hard and utterly insecure. In such environment, therefore, complete faith in and submission to God is the only thing that saves his sanity"[17].

16 & 17 Orwin, Martin. 1995."†B.W. Andrzejewski with S. Andrzejewski (Tr.): An Anthology of Somali Poetry. Ix, 113 Pp. Bloomington and Indianapolis: Indiana: Indiana University Press, 1993.





figure 1.22

Pastoralist's herd, Bada Cas Suburbs
Hargeisa, Somaliland
photograph taken by author



figure 1.23
Livestock Market. Hargeisa, Somaliland
photograph taken by author



figure 1.24
Pastoralist's herd, Bada Cas Suburbs
Hargeisa, Somaliland
photograph taken by author

02

The Necessity and Art of Construction





figure 2.0

Woman sewing together fabric used for the hut's exterior

Borama, Somaliland

photograph taken by author

"The Idea of Home and Belonging"

Certificate of High Merit in the 2019 RAIC International Prize Scholarship Competition - by author

"It was the torn, colorful fabric sheets of nomadic huts that deeply moved me. The poetics of discarded materials, an amalgamation of found objects, that created the collage-like nature of the exterior, was simply profound. Its washed-out patterns that radiated beneath rubble from the dry desert climate resembled artificial hills, gradually emerging, like little pockets between the busy urban context. In fact, maybe I was drawn to its strange uniqueness because I was an outsider; viewing the nature of the country for the first time. My Somali roots were something I'd never truly explored. Although it emanated from my physique and external makeup, on the inside, I was torn between many places and cultures. My concept of identity oscillated between obtaining a great sense of belonging and searching for a place where I felt the most at ease."[18]



18 *Dirie, Amal. 2019. "The Idea of Home and Belonging" Certificate of High Merit, 2019 RAIC International Prize.*



figure 2.1
Nomadic Hut, Rural Outskirt
Hargeisa, Somaliland
photograph taken by author





figure 2.2

Nomadic Hut, Rural Outskirt
Hargeisa, Somaliland
photograph taken by author

2.1 _ Threads in the Nomadic Landscape:
The Somalian Hut, A Pivotal Artifact Throughout Time

"Tethered to the ground, the nomadic structure firmly springs forth. Its arches made from cumulated acacia roots are fastened tightly by tribal women. In most nomadic societies throughout Sub-Saharan Africa, women are the architects of the spatial domain, possessing the only knowledge of how to construct and dismantle the huts with ease. They acquire a unique sense of craft, weaving together layered fibers that form the exotic nature of the exterior skin. The hut becomes the symbol of communal gatherings in which people would congregate to share stories and exchange poems. Women are also the vessel in which these stories and historical encounters are preserved. Similar to a historian, they cherish these stories and pass them down to their children and future generations. The men take on the role of becoming stern guards, overlooking the horizon, and traveling amongst livestock in search of adequate grazing grounds."[19]

"Beauty lies in the opposition, the polarity, between the intensity and concentration of interior space and the boundless infinity of the exterior space."[20]

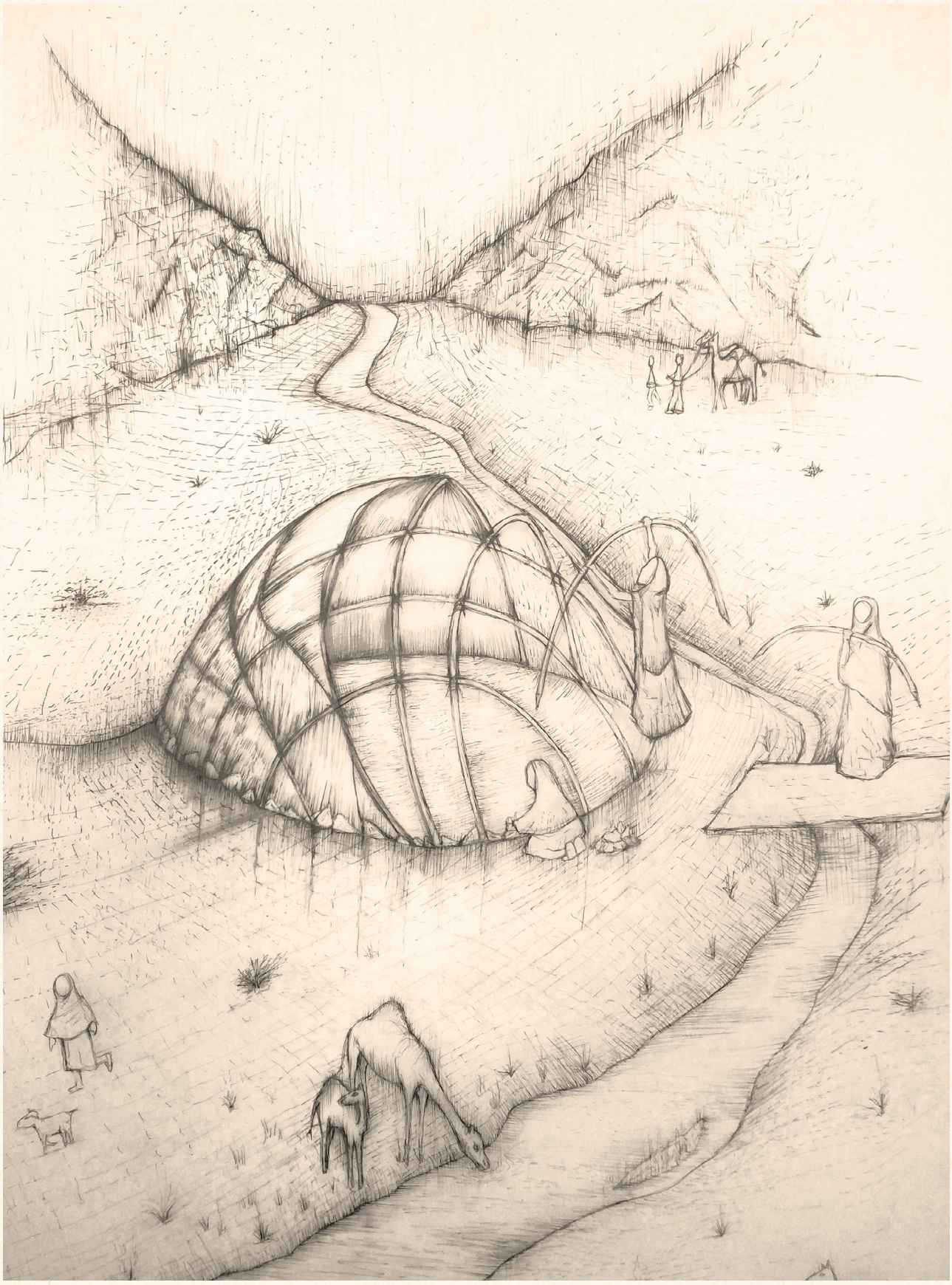


figure 2.3

Nomadic Lifestyle. Ink on mylar 24x36."
sketch by author

"Everything outside the hut becomes the men's domain, and what lies far beyond its periphery becomes the backdrop for their constant pursuit of survival.

Constructing nomadic architecture in Somaliland is a feminine activity, from the initial phase of setting up the armature to adorning and embellishing the facade. The entire process illustrates the genuine strength and close-knit ties between the tribal women, which gives them the ability to withstand the toughest adversities. The intangible yet powerful threads that keep their community and way of living prevalent today are the stories that emerge from the hearth and resonate far beyond its surroundings."[21]

"For the nomad, the tent is a spherical container, conceptually and in reality, an irreducible unit of space: a portable, moving indicator, moving center, a container of intimate territoriality which personalized the anonymity of landscape for the peripatetic nomadic women. Its very size communicates the nature of the feminine self and her changing status in the nomadic society."[22]

The hut and its craft are essential pillars of nomadic traditions and portray the changing role of nomadic women in developing cities. The hut regarding its construction has gradually evolved to incorporate newly introduced materials, and due to the lack of natural resources, the eloquent qualities of nomadic life have become compromised. The hut initially was a tool for nomads to spatialize and recognize the shifts within varying landscapes, a place where they could rationalize the mysteries hidden beyond its boundaries.

19 & 21 *Dirie, Amal. 2019. "Threads in the Nomadic Landscape: The Somalian Hut, A Pivotal Artifact Throughout Time", Dr. Daleep Singh Memorial Award.*

20 & 22 *Prussin, Labelle. 1995. African Nomadic Architecture : Space, Place, and Gender. Washington: Smithsonian Institution Press : National Museum of African Art.*



figure 2.4

Nomadic Huts, Rural Outskirt
Hargeisa, Somaliland
photograph taken by author

2.2 _ The Act of Building & Remembrance Through Songs

I found myself sitting with four elderly ladies, along with my aunt, under a large acacia tree. They were all trying to listen to the news, as one lady kept fidgeting with the radio's antenna to draw out the static. The acacia tree's trunk fascinated me; it seemed that one tree was growing right under the other or somehow grafted on at some point. The eldest of the bunch pointed out that the tree was a hybrid between a *'galool'* tree *(Acacia bussei)* and a *'sogsog' (Acacia etbaica)*. I kept examining its branches as it extended outwards to touch the walls of the museum. They were busy bickering about their preferred stations, ranging from topics on politics such as the president's recent trip to Guinea or stations catered to entertainment through poetry. Everyone seemed pretty focused on the news as we patiently waited to get entrance into the '*Saryan Museum*', that had artifacts that dated back to Somaliland's initial heritage and origins.

The women were well into their mid-60s to 70s. By merely glancing around the congregation, I could tell that these women have lived through Somaliland's development. From nomadism to the civil war and now to the country's liberated, self-declared independence.

Cultural Map
video created by author:

https://www.youtube.com/watch?v=wbGYjMhOg5Y

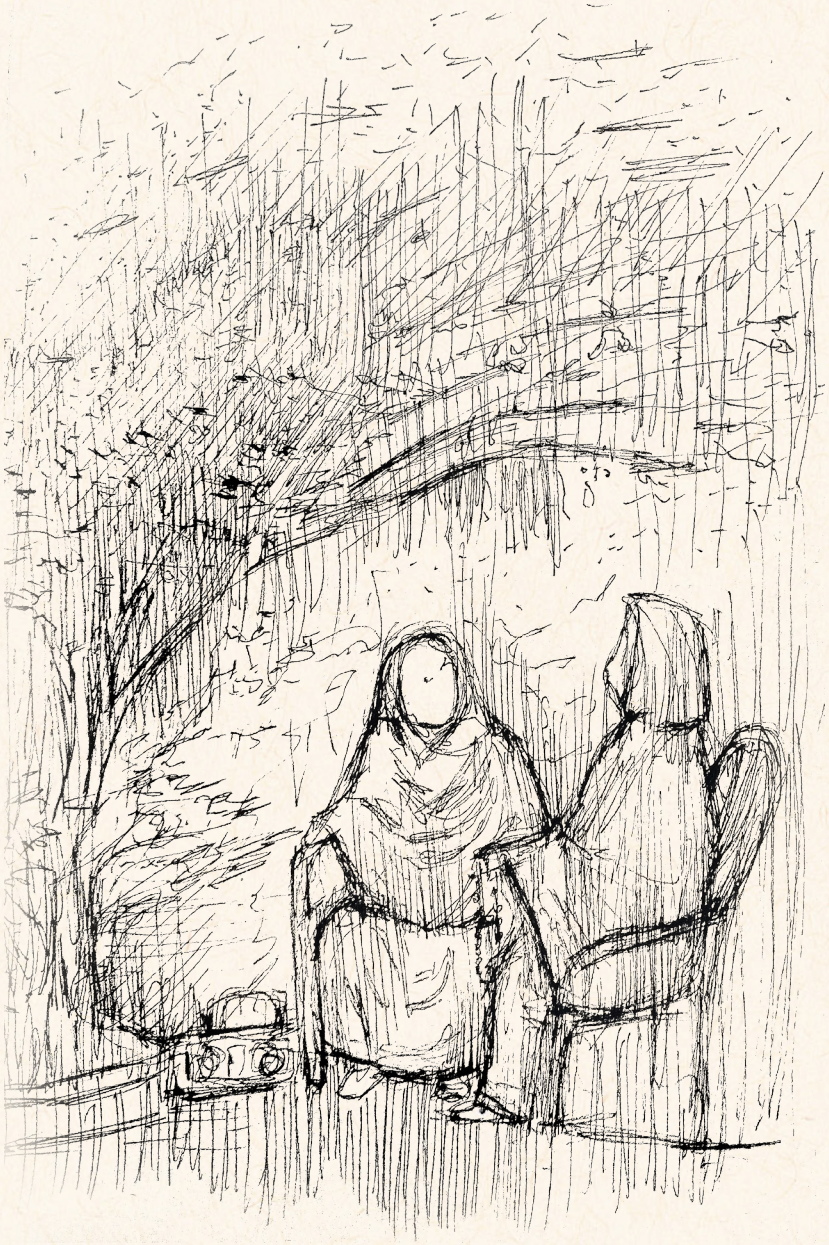


figure 2.5

Sitting under the acacia tree
sketch by author

There were a couple more hours before sunset and maghrib prayer. The air was much more relaxed, and the strong winds slowly swayed the branches of the acacia trees back and forth. I just sat there attentively listening and following along their conversation. At this point, my Somali had significantly improved; I could understand most jargon, even subtle metaphorical jokes. As I utter the smooth sounds within the Somali dialect, I could feel myself slowly adapting.

My aunt quickly mentions to the group that I was mainly interested in 'dhagaanki horaay' - a term used to describe old cultural traditions and practices from the past. More so about the *'buuls'* and *'aqals'*- Somali huts. I wanted to get a sense of cultural artifacts in their given locations, mainly viewing preserved huts instead of replicas. I questioned if any huts today used older building techniques. I wanted to understand the reason why they transformed and changed over time. The eldest of the group mentioned that things are always changing; the best we can do is keep our heritage alive in our memories. They started reminding one another of the efforts that went into making the hut. They even described the amount of work it took to weave together the most exquisite patterning details used on the exterior mats. These mats were made from *'caws'* (a generic term used to describe all types of grass). One of the ladies brings up a famous working song used in the making of the 'harrar' and the *'kebed'* (terms used to describe types of exterior mats of ceremonial quality). She looked at me firmly and asked if I would like to hear it. There was a long pause as the group tried to recollect their memories about a song whose lyrics and tones they've left in the past.

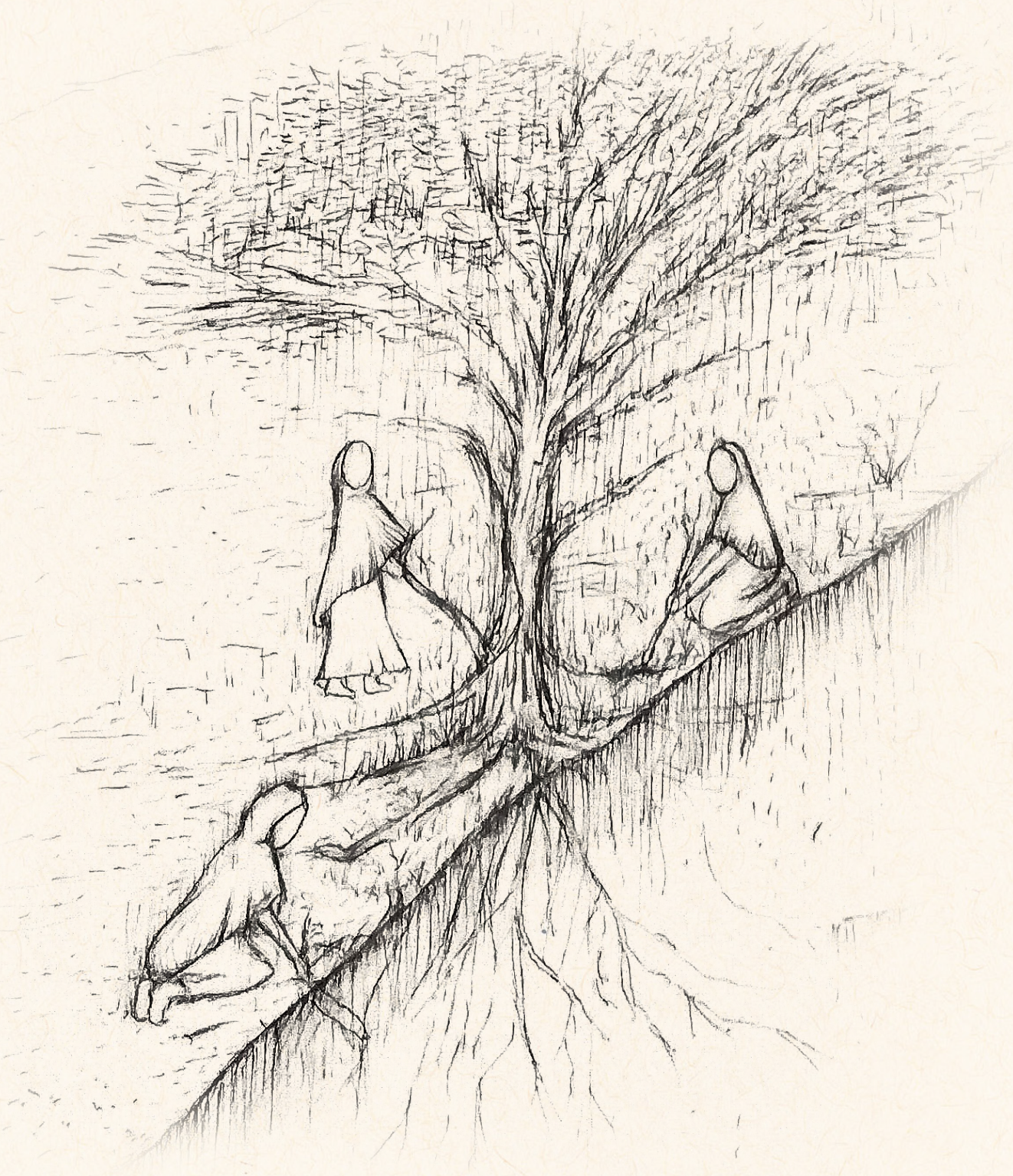


figure 2.6

Nomadic women pulling acacia roots
sketch by author

And amongst the dead silence, one starts to burst out into a lush melody, that triggers the other ladies to follow along instinctively. They were singing verses from *'Heesti Kebed'* which translates to *'Songs of the Kebed'*. The kebed is a valuable, decorative mat used for adorning the hut's exterior. The making of the kebed itself requires immense handiwork, which roughly takes about 20-30 days to complete. Therefore, singing and laughing with the support of other females strengthens the bond of sisterhood and makes the work a lot easier.

The first verse of the song states:

"Geedba, geedka u dheer laga garacyeey, Galool mudhay mullax looga diiryeey"[23]

"From the tallest tree your fiber comes, You are the fiber of the highest galool"[24]

From an outsider's perspective, I could see that they haven't forgotten the lyrics entirely. By the pulsations of each verse, I could feel tremendous exhilaration after each chanting rhythm within the chorus. Every element addressed within the song had immense symbolic weight. All the acacia trees have great significance, but primarily the 'galool' is the main tree used in the structure of the entire hut, from its supporting members to the fibers used for the interlaced mats. The 'galool' itself is an icon, encompassing immense poetic and meaningful value. For instance, the roots of the 'galool' are the curved structural members known as the 'dhiggo'. The women must undergo a labor-intensive task to obtain such roots, afterwards bending them into the desired shape (figure 2.8).

23&24 Prussin, Labelle. 1995. African Nomadic Architecture : Space, Place, and Gender.Washington: Smithsonian Institution Press : National Museum of African Art.

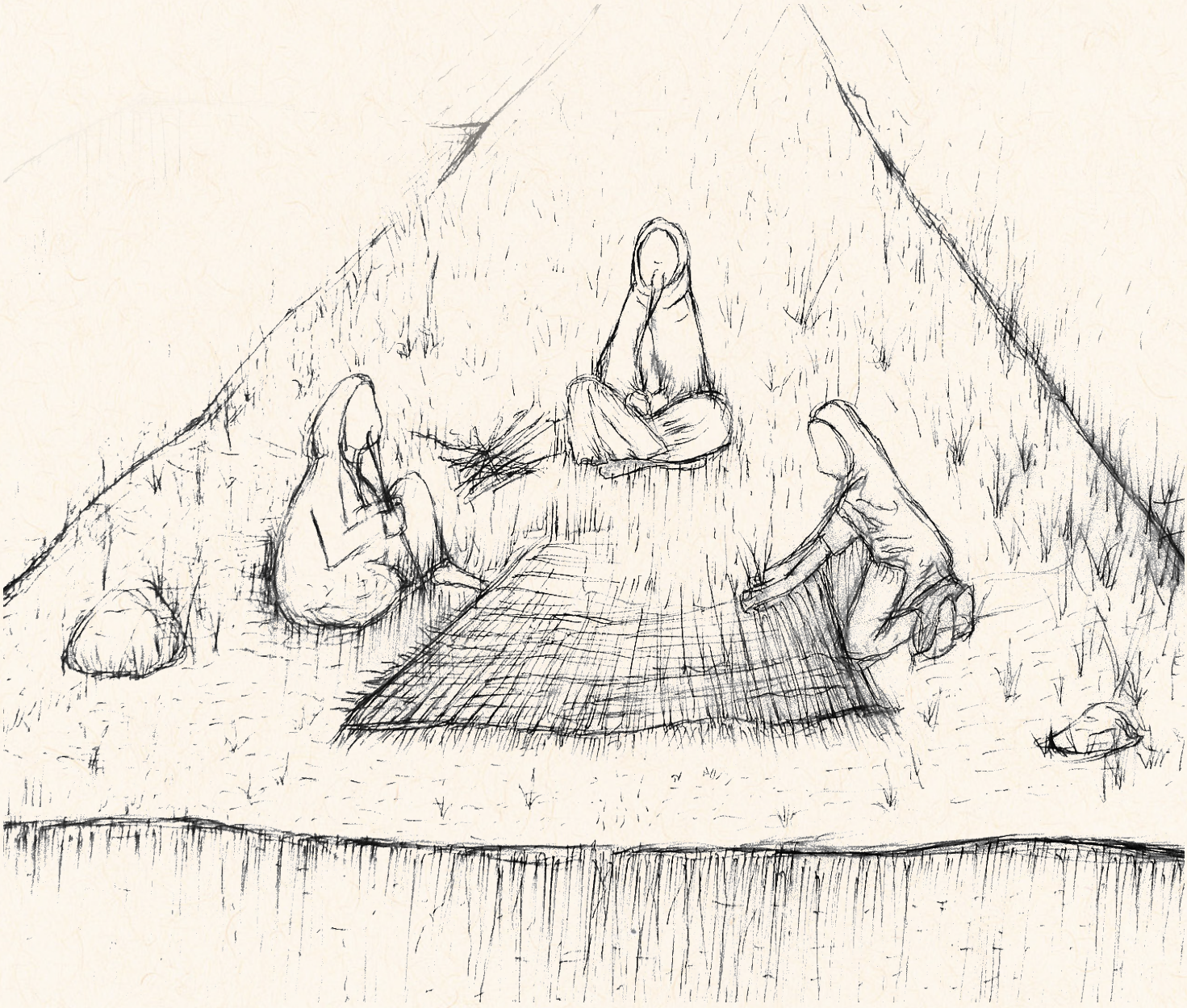


figure 2.7

Nomadic women chewing acacia fibers to make the "kebed"
sketch by author

"To get to the root, the women dig as far as their elbow in depth, to the point where they can locate several roots of the tree. They never touch the main foundation root, as it is far too deep and its removal would destroy the tree itself, but they use instead of the lesser roots of, say twelve meters, which are cut, removed, and straightened out. To give these roots the curved shape of the qabax, they are warmed, without being burned, by warm ash and bent to the desired shape."[25]

Their methods of building illustrate the importance of utilizing all aspects of the natural landscape in a preserved manner. They enforce a no-waste attitude, where every piece of the tree is incorporated at convenient locations. For instance, the women chew the fibers from the 'galool' tree to make the string that ties together the 'caws' (tall grass) used in the 'kebed'. This strenuous task adds to the overall value of the 'kebed' itself, where almost all females within a household would never dream of selling these mats, as that would indicate the utmost level of poverty.

As the song continues, it alternates stanzas creating little moments for other women to join in and construct new verses. Others may have documented similar songs that used the same verses, though it may be arranged in a different order. I felt that it was vital for me to understand the stanzas and verses these genuine women chose to sing at that very moment. Their words and harmonic melodies allowed the very act of remembering to become palpable.

23 *Ibid.,45.*

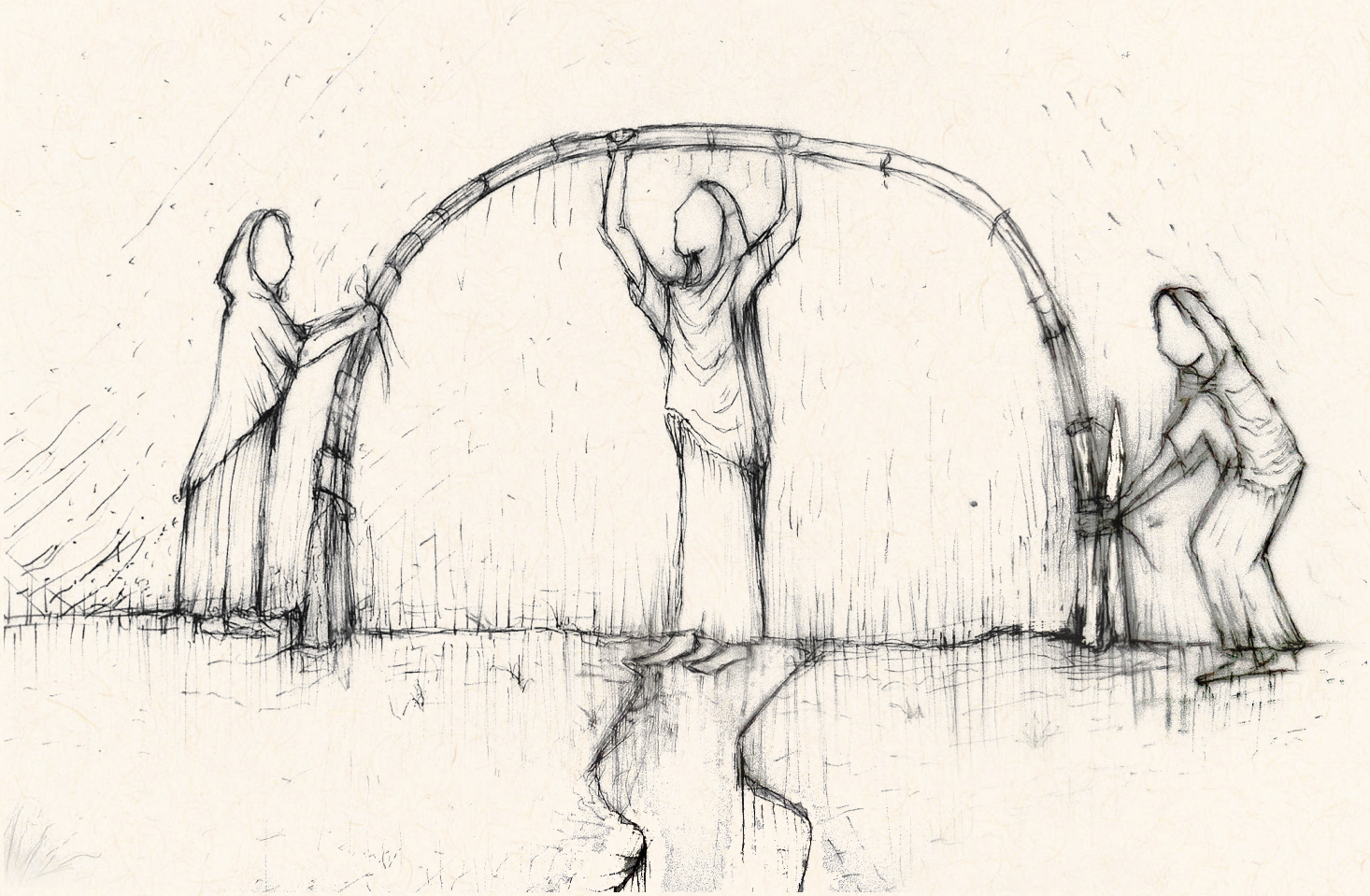


figure 2.8

Nomadic women bending acacia roots
sketch by author

They continue without hesitation.

"Baranbarshaalley, buul shareeraay ma maantan bah kuhelay"[26]

"You with your delighted designs, enhance my house as a cover, Today I have my sisters to aid me"[27]

"Korankor cunimaynoo karibamaynee, karuur geel ma la hayaa"[28]

"We can't eat grains, they are tough. Provide us with the sour milk of camels"[29]

The song mainly discusses methods of preparation, whether it be through gathering building components, preparation of food, or a new bride into marriage. The first verse talks about the kebed and how it beautifies the hut. It is a mat that solidifies the bond of sisterhood from the initial phase to its completion. The second verse highlights the need to provide sustenance that consists of the least amount of preparation, such as camel milk. Camel milk is a nutrient-dense drink popular throughout the country, both widely consumed in the past and present day. Nomads don't necessarily adopt an agrarian lifestyle, as they are always moving. They solely depend on foods that are readily available throughout the year and are not affected by seasonal harvesting. They do, however, harvest grains such as sorghum which have become a staple throughout Somaliland. The song hints that the act of growing grains takes a lot of time in comparison to merely drinking camels milk. Time is the critical factor here where everything must be done efficiently, preparing the women for a tiring task.

26-31 Ibid.,45.

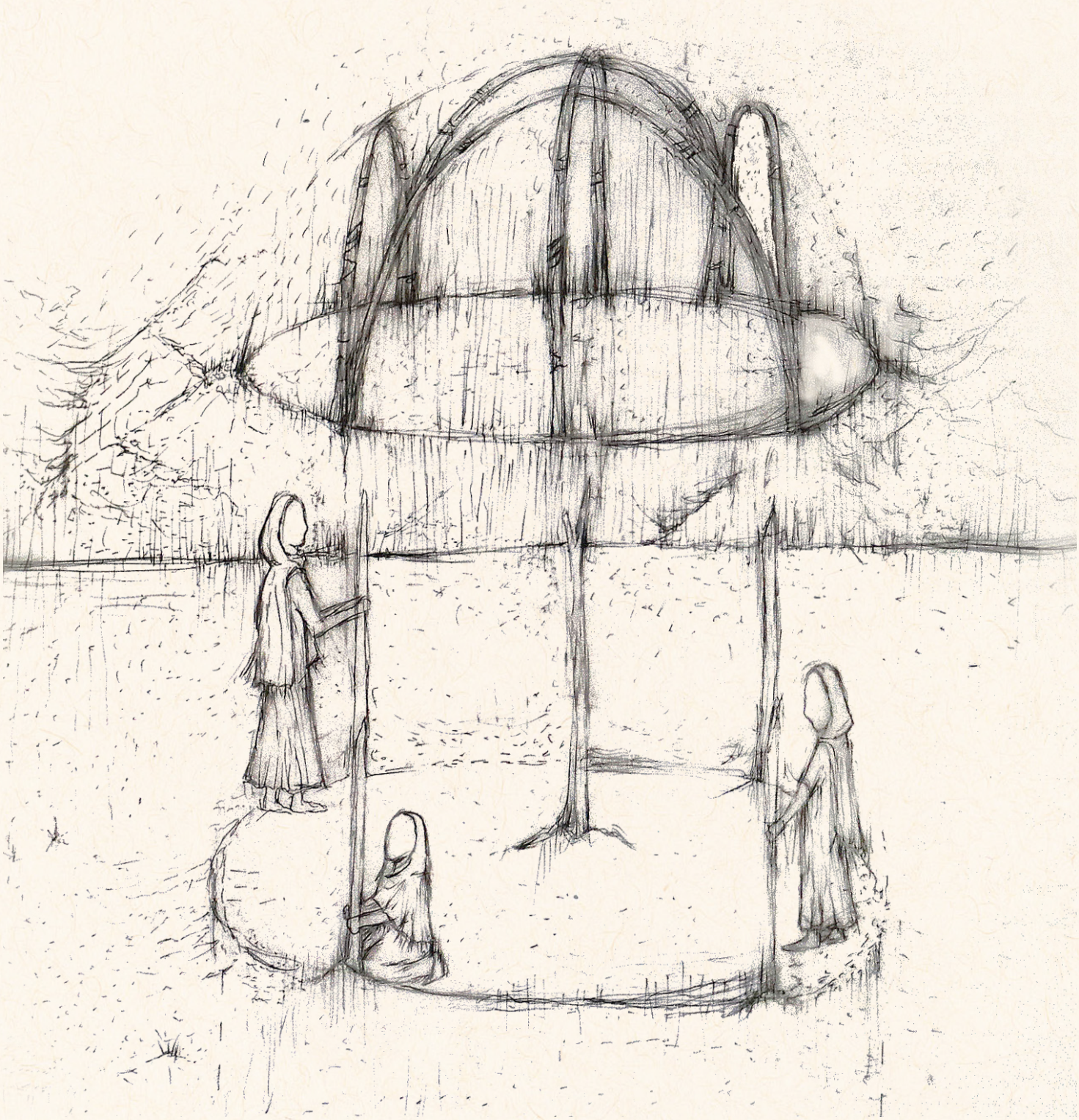


figure 2.9

Establishing the foundation for the huts. The use of "udubs and dhigos" sketch by author.

"She must have all her materials ready, the fiber in bundles, the dye colors already prepared, and enough food and drink to feed her "army" of workers."[30]

"Barqab was saadoo sari ba maynay sagalchira nirmaa naaynay"[31]

"We can't eat the meat of strong camel, provide us with the younger ones (one that has not borne a calf, preferably one that's nine years old)"[32]

These verses reiterate the need to facilitate consumption and overall cooking time. The goal is that the women spend their hours efficiently so that they can focus on completing the *'kebed'.*

The hut was associated with dreams of growing and starting a family, marking a new transition into the tribal passage of nomadic life. It indicated the beginning point of a journey into womanhood. Its traditions retained, passed down from older generations into new. These women used to embody methods of construction within the lyrics of songs, passing them down to their daughters as they grew. The hut was a starting point into a new life, where its dynamic qualities were tied to the shifting relationships of a family household, especially those bonds created after marriage.

30 *Prussin, Labelle. 1995. African Nomadic Architecture : Space, Place, and Gender.Washington: Smithsonian Institution Press : National Museum of African Art.*

31&32 *Translated by Ahmed Dirie*

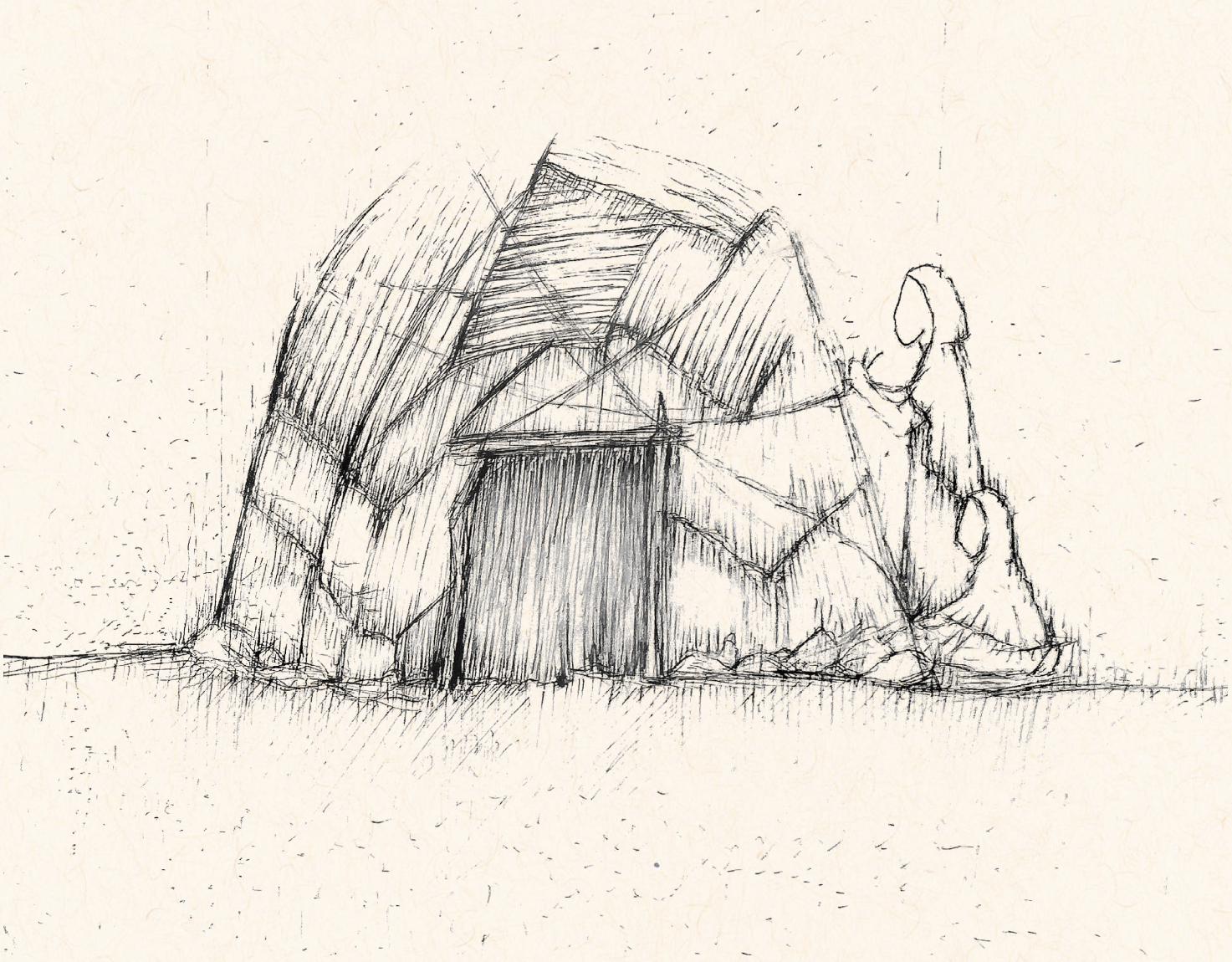


figure 2.10

Tying down the exterior mats
sketch by author.

"It is a gift of the mother and the female side of the bride's family, and each female has the responsibility of mounting and dismounting her house for each move, maintaining and repairing its components parts, and eventually providing additional portable houses for her own daughters or womenfolk."[33]

"Gesso geel keeni iyo gaari rithadtaa galooolo gu dahayaay"[34]

"It will never be sold (kebed). It is for a brave lad; it is for an elegant lady."[35]

The term used to describe an elegant lady is *'gaari'*, which designates a married woman or bride who encompassed everything nomads believed to be good. She would fall under the category of someone who had a clean appearance. Someone who presumed the responsibilities of a wife/ mother, therefore, tending to her husband and children's needs. She was responsible for the provision of food and ensuring a healthy upbringing of her family.

"...as a competent married woman, she did most of the work related to processing, preparation, and distribution of food of the household, manufactured, maintained, and repaired the collapsible house and woven household utensils, and took care of livestock other than camels."[36]

33&36 *Kapteijns, Lidwien. 1999.Women's Voices in a Man's World :Women and the Pastoral Tradition in Northern Somali Orature, C. 1899-1980, edited by Maryan Omar Ali. Portsmouth, NH: Heinemann.*

34&35 *Translated by Ahmed Dirie*

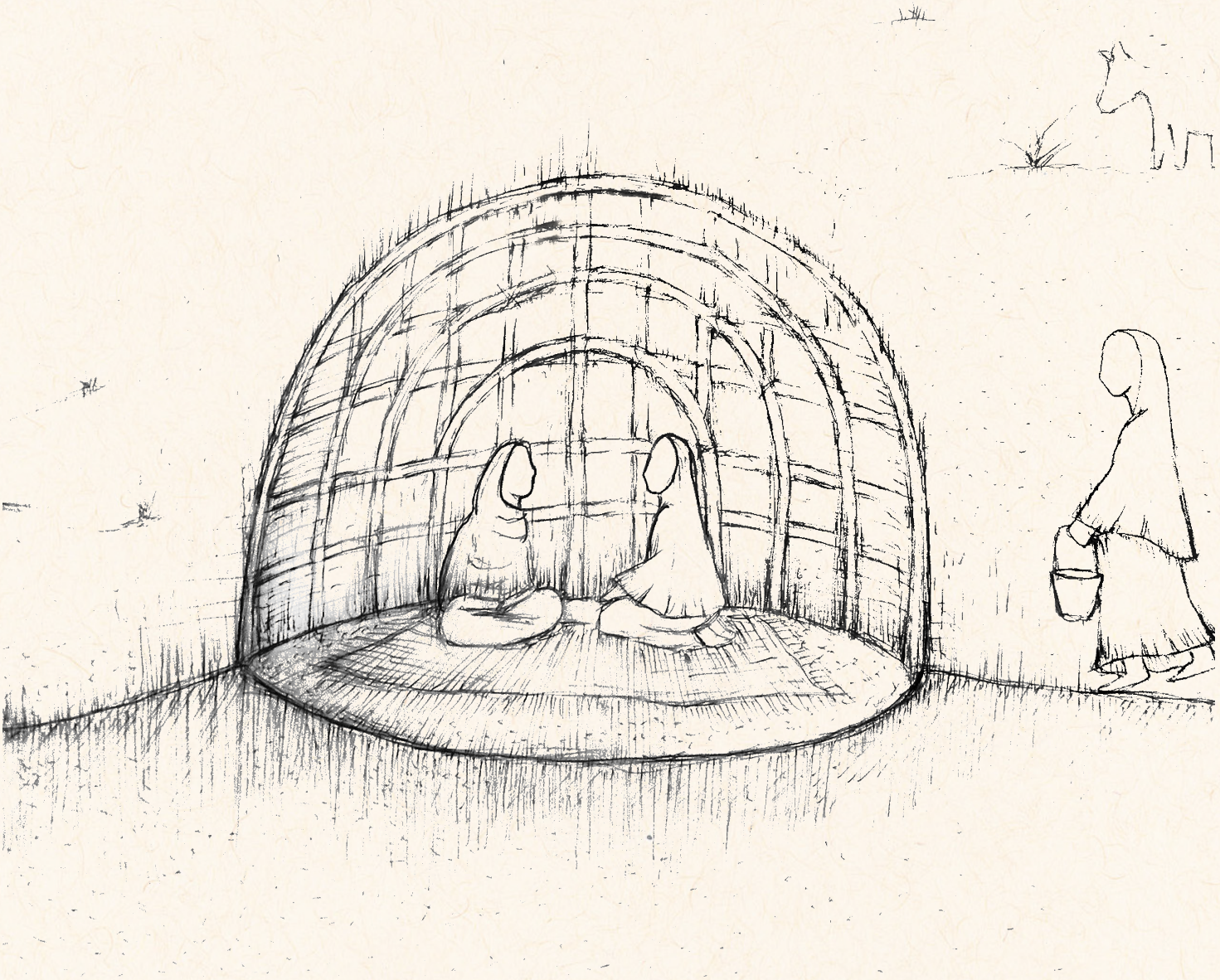


figure 2.11

The nomadic hut's interior

sketch by author

"Pastoral women were always working. They were already pounding grain at the beginning of time when the sky still hung low over the earth. But as they, in making food for their husbands, kept poking holes in the sky with their large pestles, the sky withdrew and the pestle holes became the stars we see today."[37]

We cannot deny the strong role women served in the past and the role they maintain to this day. We must remember that the whole premise of nomadic culture is and will always fall under the domain of powerful women. It is encapsulated within the most exquisite details of their actions. As I sit cunningly amongst the congregation, I rest assured knowing that the knowledge presented in front of me was one that could not be stripped away, despite the shifts in societal culture.

'Oh kunaguraagyo nagu ruug ragaya ragganamow uyaarnaaya"[38]

"If we cannot finish the kebed in time, should we call the men to help us?"[39]

"Waatan soo xeehlay xaahikacaday xalaawo lu' thaaniyaay"[40]

"We have to finish the kebed on time because we hear the sounds of the cattle (as bright as day) returning back after a long day"[41]

These verses accentuate and stress the importance of finishing the kebed. It questions whether they need additional help from the men to complete on time. And it portrays the arrival of the *'gaari'* more literally, in hopes to speed up production so that she, *'the elegant lady or new bride'*, can begin the celebration into a new life. It stresses the need to finish, before the cattle returns and increases the amount of work they would have to do. The song now takes on

37 *Ibid.,53.*

38–41 *Translated by Amina Abdillahi Hirsi*

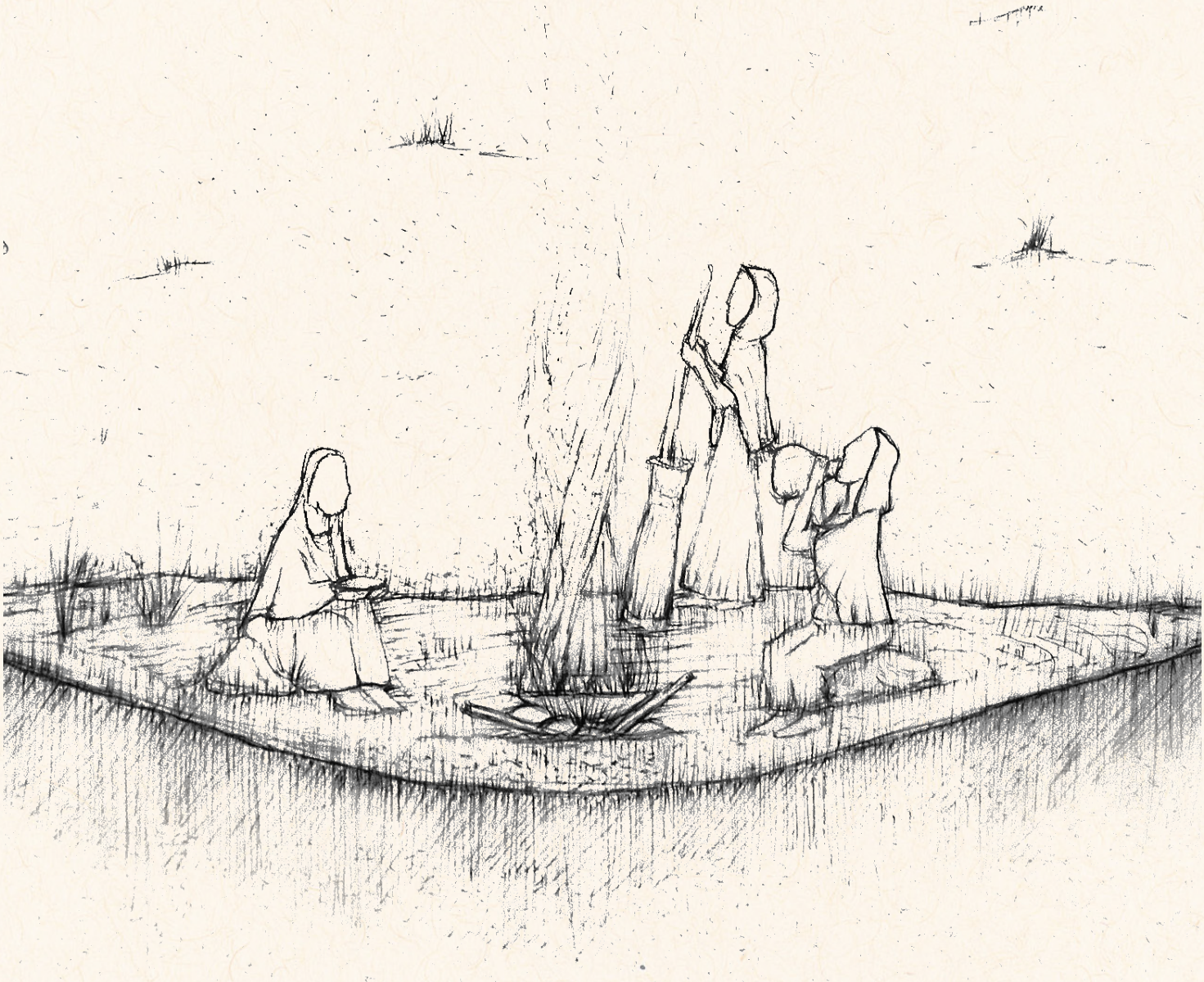


figure 2.12

Nomadic women by the fire
sketch by author

a different tune, talking directly to the *'saari'* (coverings) of the hut itself. The beat is at a slightly slower pace, the clapping intensifies, and there is a stronger pronunciation of words. The last few verses talk about the urgency of placing the coverings on top of the hut to prevent anybody from snatching it away. They believe that those who seize it will have the ill intention of selling it in the market. Robbing women of their glorious mats and disregarding their dedicated hours of labour. These verses talk directly to the *'harrar'* instead of the *'kebed'*, because no one would ever dream of selling such an incredible woven mat of the highest symbolic importance.

"Ay Hooyalaalyou hoyal' A poetic device used to alternate to a new stanza, a new chorus. (This also indicates the ending of the original song.)"[42]

"Laga sooga lagadiginaay, Hoyal"[43]
"Before someone leaves you in the market"[44]

'Sodoon laguu ubaayicnaay, Hooyal"[45]
"Where you will be bargained"[46]

"Ya samayaay laga oranaay"[47]
"And asks, who made you?"[48]

And as the song ends, I could see the radiance jump from each woman's facial expression. The eldest woman knew I was recording the song all along. She asked if I could replay it so that they can all laugh at the sound of their voices. For me, this precious moment on my trip was by far the most memorable. I felt more connected with these women and my aunt because they gave me a glimpse into their lives from the past. They were granting me the privilege to listen to their stories and songs. Their narratives helped me reconstruct a forgotten landscape, where I immediately appreciated everything, from the subtle gestures of their smiles to the contagious nature of their laughter.

42 *Prussin, Labelle. 1995. African Nomadic Architecture : Space, Place, and Gender.Washington: Smithsonian Institution Press : National Museum of African Art.*

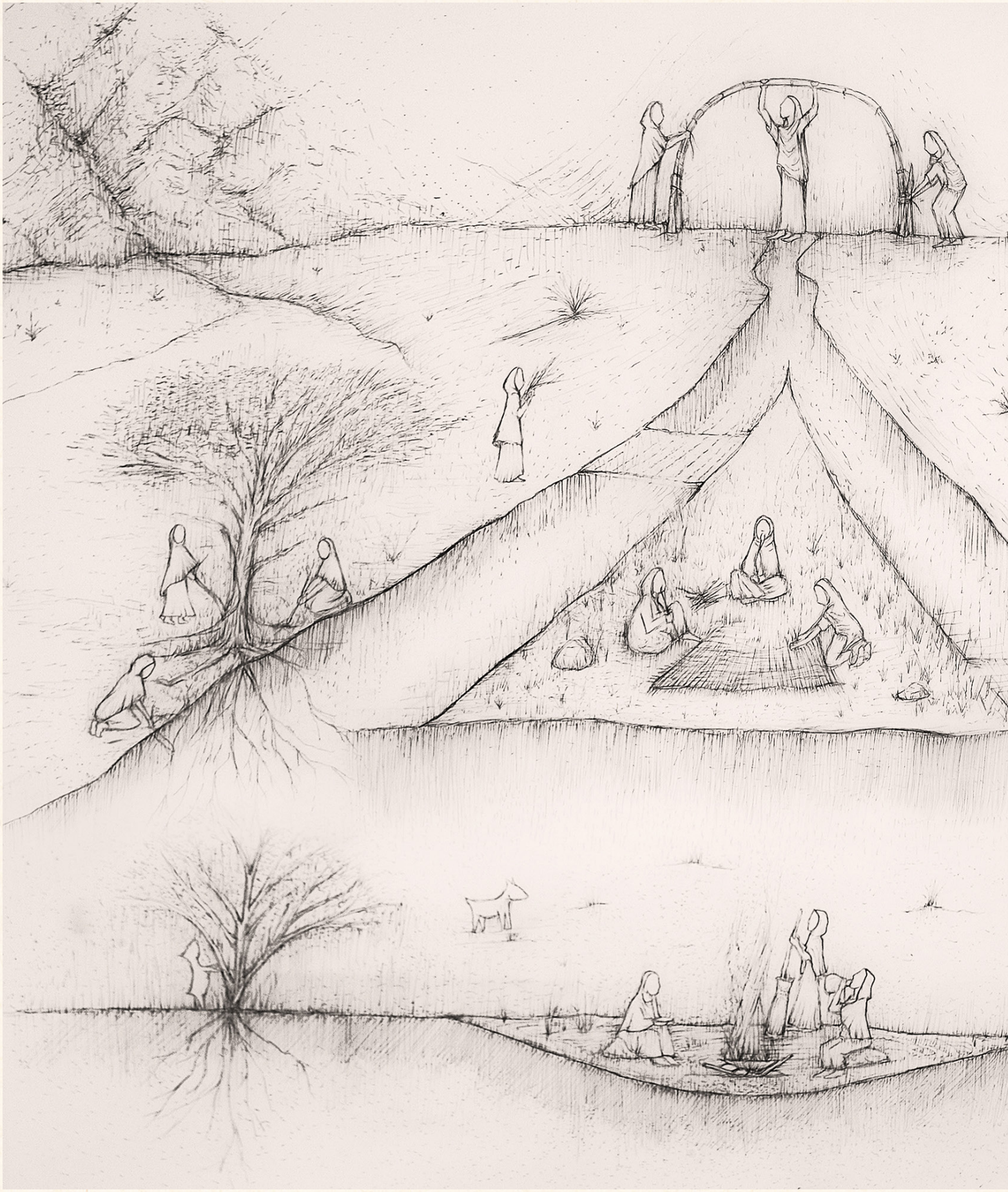
43-48 *Ibid.,55.*



figure 2.13

Goat grazing

sketch by author



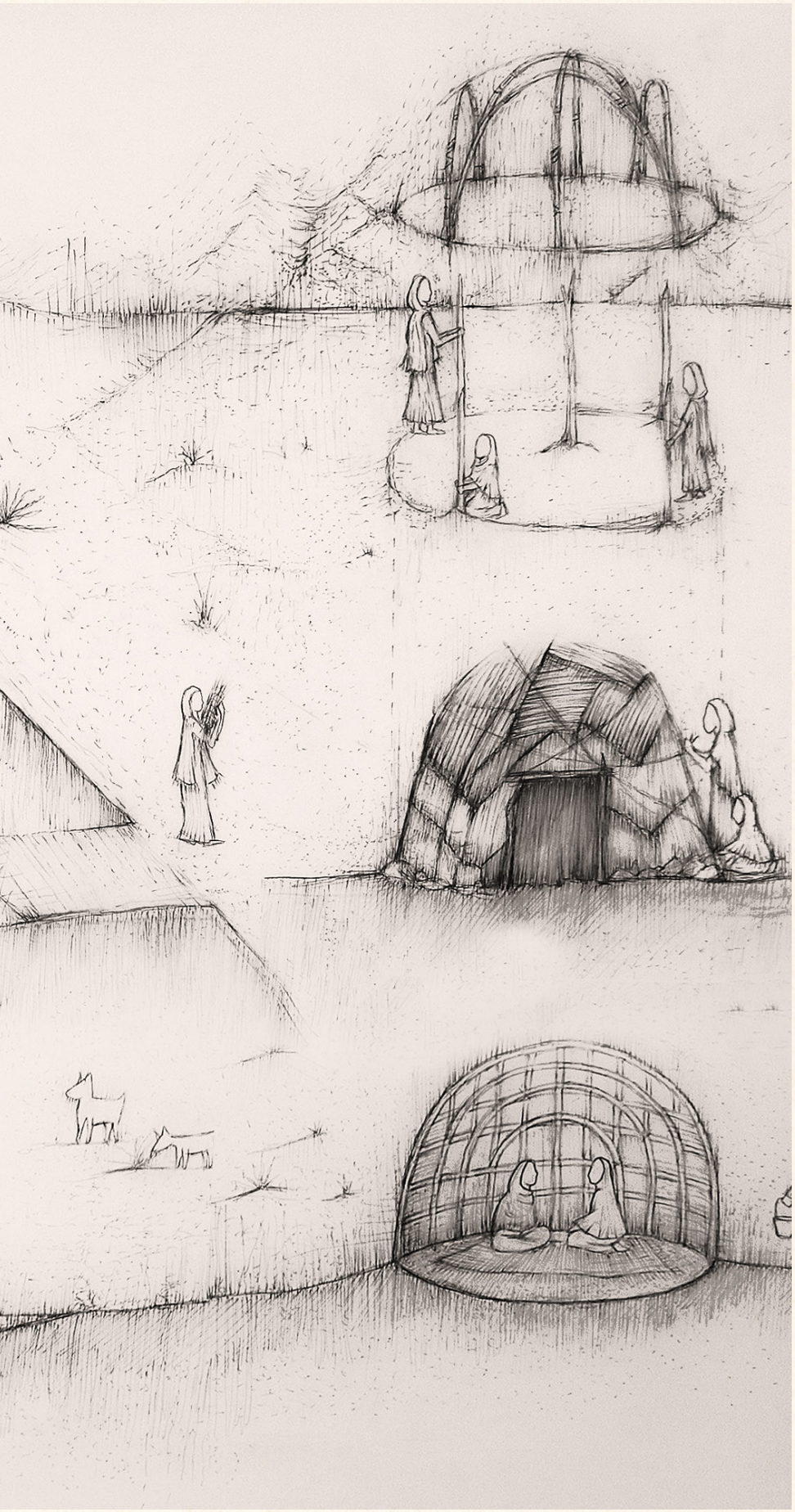


figure 2.14

Nomadic Cultural Map, "Xeesti Kebed"

36x42", ink on mylar
illustrated by author

2.3 _ The Huts Components

The Somali hut (*'aqal'* or *'buul'*) consists of critical fundamental components that allow it to take on a hemispherical shape. Its lightweight construction enables versatility and supports the dynamic nature of the nomadic lifestyle. The hut consists of three primary building components that make up the bulk of its development. These include structural elements, supporting members, and exterior finishes. All components serve a harmonic purpose by protecting nomadic livelihood against harsh climatic conditions, along with encompassing a sense of beauty.

"The portable nomadic house, which in Somali is known as an aqal, is a hemispherical dome 1.5m-2.13m in height, and constructed of three component parts: semicircular shaped poles that give it strength and form, vertical poles used for reinforcement, and layers of woven mats made of grass and acacia fibers used for covering and decoration. All three are tied together as an intricate web to form a strong, impermeable package."[49]

49 Prussin, Labelle. 1995. *African Nomadic Architecture : Space, Place, and Gender.*Washington: Smithsonian Institution Press : National Museum of African Art.



figure 2.15

The hut's components and morphology
Arabsiyo, Somaliland
photograph taken by author

Today, the hut has permanently transformed, incorporating a variety of materials within its construction, altering its overall traditional vernacular shape and natural conventions. Different dwelling typologies have emerged, such as the *'sandaqad'*,which are shelters constructed out of corrugated sheet metal. The newly introduced materials result in the creation of planar, box-like shelters. These temporary huts within the city, such as Hargeisa, have taken a semi-permanent status, crossing into the threshold of sedentary dwellings. While residential areas known as *'daar'* use an array of widely available materials such as concrete or bricks. These brand-new, rapidly produced buildings change the attitude people have towards sustainable measures, where they forget the feasibility of locally sourced materials.

The following description depicts the stages of construction and architectural elements of the traditional vernacular hut. Each component within the hut must be analyzed to understand its importance, mainly looking at the order in which it's constructed. It begins with its structural frames known as the *'dhigo'*. These members are curved poles made from the roots of acacia trees. They are bent to the desired shape by anchoring the dug roots in between two fixed poles firmly placed within the ground. These roots are warmed with ash and kept in the position for at least one week to maintain its arched shape. After the week has passed, the newly formed structural hoops are treated with *'asal'* (a term describing bark from acacia trees that prevent termites from deteriorating the members) and thus protected in strength over time. The roots are then bound tightly with goat or camel leather. The dhigo can then be divided into two subcategories classified by thickness. (figure 2.17 &2.24). These poles known as the 'qabax' last roughly around 10-20 years and at the very center of the hut consists of the primary structural arch called *'dhigdhexo'* (translated as the 'dhigo in the middle').



figure 2.16

Nomadic Huts, Rural Outskirt
Hargeisa, Somaliland
photograph taken by author

The *'qabax'* are the main thick structural members of the hut, made primarily from the roots of the acacia tree.

The *'lool',* on the other hand, are thinner members that are not structural, but instead, are used to support the hemispherical shape of the entire hut while keeping the exterior mats in place. The *'lool'* is composed of flexible thin reeds called *'duur'*, which are tied together using leather strings. Three reed members constitute a *'lool'*, where the hut tends to have at least twenty. These 'lools' are not anchored into the ground as their primary function is to fill the spacing between the vertical *'udub'*, so that the exterior and interior coverings can be mounted adequately, preventing the mats from caving within the dome (figure 2.24).

"They go over or under the heavier poles in both directions so that, as one looks through the armature within the house, one sees small square holes between the lines of poles; the smaller the separation between the curves the better."[50]

High levels of consideration, precision, and care are needed when tying all three members together, the *'dhigo'*, *'lool'*, and *'udub'*. The interior of the huts usually splits different programmatic uses into different sections. The *'afgudub'* is the primary entrance of the hut, it translates as the *'hut's mouth'*. The rear is known as the *'sino'*, and the sides are known as '*geesdhis*' (figure 2.17)

50 *Ibid.,61.*

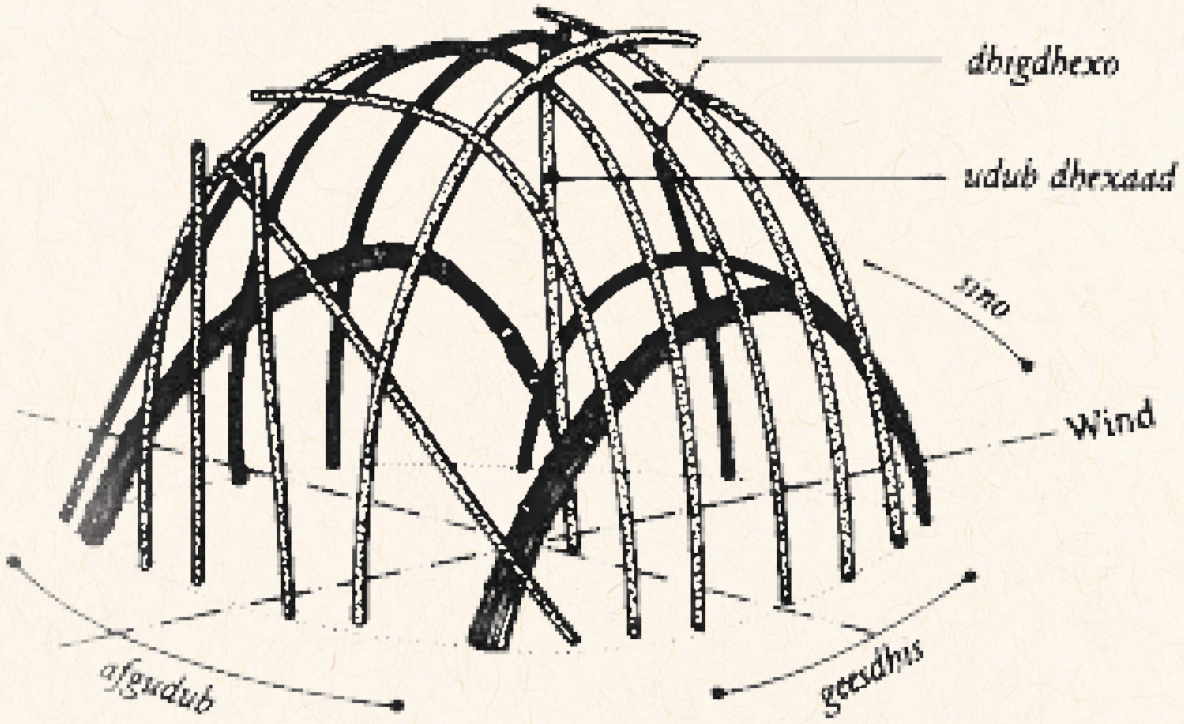


figure 2.17

"a structural diagram of the construction of a Somali aqal."[51]

51 Prussin, Labelle. 1995. African Nomadic Architecture : Space, Place, and Gender.Washington: Smithsonian Institution Press : National Museum of African Art.

The women construct the hut in a logical order, beginning by placing the *'qabax'* at the sides called *'sino'.* They then dig a diameter of 45 cm to insert each pole. These holes are usually covered with myrrh or salt to increase the pole's longevity and protect against termites. Stones and pebbles are placed at the edges to ensure rigidity, preventing the members from collapsing. The structural hoops must be strong enough to withstand their own weight without falling, as the women go around testing the member's strength by shaking it numerous times. This method of examining its structural integrity is applied to all sides.

There is no specific number required for the *'qabax'* to ensure the hut's durability (figure 2.24). The amount needed changes relative to the size and demand, "one source said seven were needed for a basic house; another said eight; others said twelve were required for a right, respectable size."[52] The taller vertical supporting members are known as *'udub'* and are primarily used to support the overall structural frame, similar to columns in a building. The number of poles needed can vary between seven to twelve. There is *'udub dhexaad'*, which is the primary 'udub' with a high level of importance and is translated as udub in the middle. This member supports *'dhigo dhexaad',*(dhigo in the middle). The placement of *'udubs'* also signifies places where partitions of rooms will be created and set.

The hut's coverings are known as the *'saari'*. The protective skin displays a significant degree of intricacy and illuminates the talents of nomadic women. It serves as both a functional and aesthetic layer, utilizing different weaving patterns. The type of grass used for this application is known as *'maadh'* and is typically woven in 6-7 cm and folds roughly around 25-30 cm in length.

52 *Ibid.,66.*

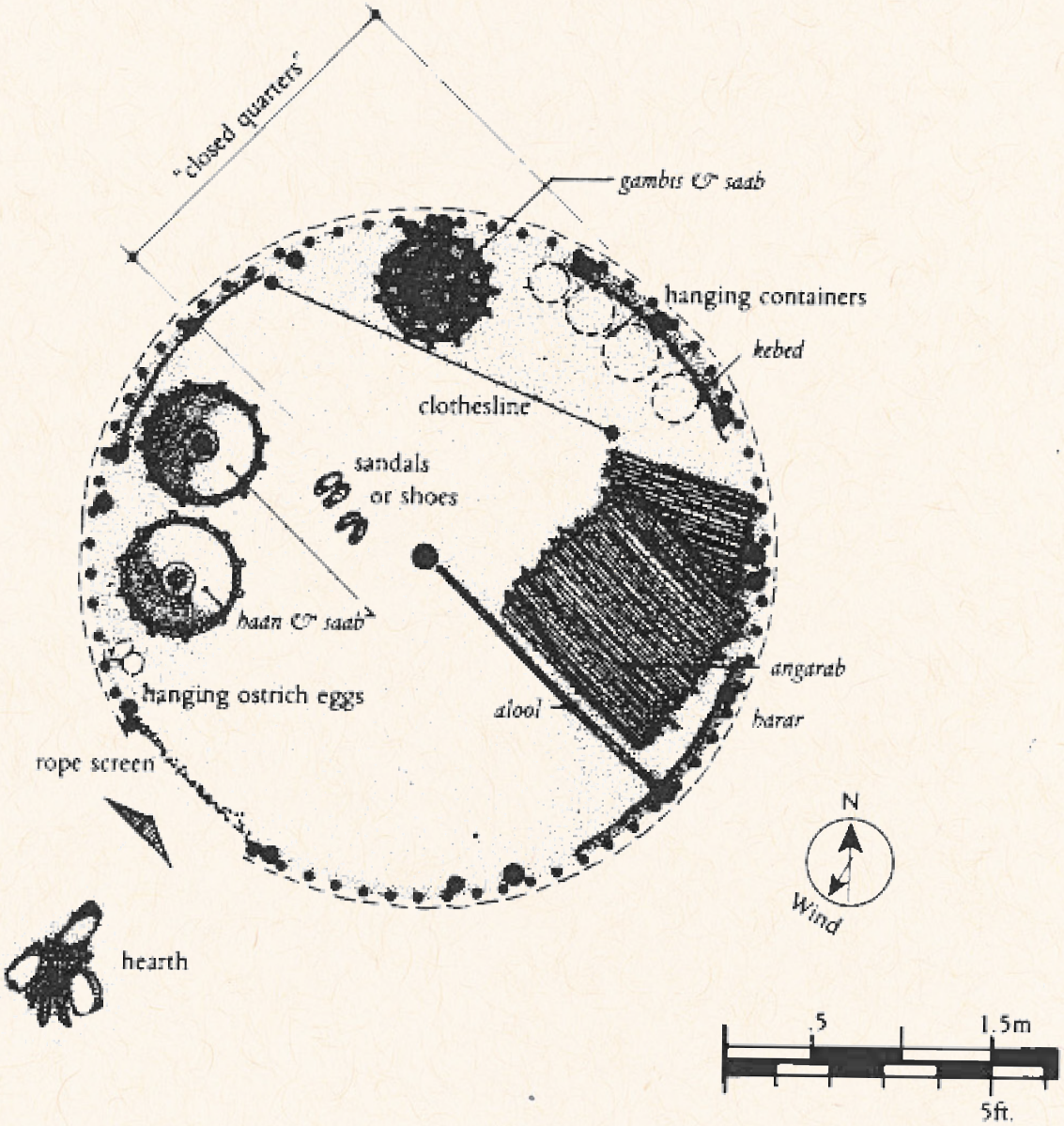


figure 2.18

"floor plan, showing the location of various mats and storage containers"[53]

53 *Ibid.*, 66.

"These packets of grass form the vertical or "warp" line of traditional weaving and are reinforced every 10 cm of length with a new row of grass packets, inserted from the back so skillfully that from the front, it gives the illusion that the mat is woven from lengths of very long grass. As each new row is introduced, a fringe or overhang of about 10 cm is allowed in the back, giving the reverse an appearance of layer upon layer of thatch. This endows the mat with its artistic quality and dual function: within, it enriches the wall and ceiling with decorative surfaces, and on the exterior, its thatched texture is a protective covering, impervious to wind, sand, and rain. The weft or crosswise threads are woven under and over the grass packets is made of sisal or acacia fiber. These fibers were often dyed with natural dyes and abstract designs thus produced. More recently, imported wools are replacing the naturally dyed fibers." [54]

The *'harrar'* describes an exterior mat that uses patterns of varying grasses to create multiple designs. It ranges in size and is usually around 4.5 m wide and 1.75 m long. A mother will typically make a mat to give to her daughter. Sometimes a woman may solely craft the covering for herself. The preparation of the *'harrar'* takes at least one month to complete where a lot of efforts and aspirations go into its making. Braiding the fringe of the 'harrar' signifies the mats completions, and is usually done with the support of friends.

"The young unmarried girls are invited in the evening to finish off the harrar, which is not a very arduous task, but rather a social event. The girls sing and show off their skills and cleverness at reciting or inventing additional verses."[55]

54-55 *Ibid.,66.*



figure 2.19

Nomadic Huts, Rural Outskirt
Hargeisa, Somaliland
photograph taken by author

Another essential textile is known as the *'kebed',* which is similar to the *'harrar'* but instead has a stronger sentimental value and higher aesthetic qualities that are celebrated by many Somali women. Creating the mat is often associated with ceremonies such as weddings.

"Kebed making is the most solemn and important preparation of the betrothal. This interior mat is one of the "fine" things in a nomadic household. Placed at either side or the back of the house, it is looked upon as a painting or as a piece of art."[56]

It is made at a similar scale and is comparable to other fabrics due to the use of acacia fibers. The branches are usually cut, having the bark stripped, and the thorns removed. The white fibers behind the bark are usually chewed until it is soft and isolated to individual fibrous strands. Only those women in good health are required to aid in the act of chewing as it is a laborious task to gather enough fibers to complete the kebed. Similar to the construction of other mats using *'caws'* the new acacia fibers are also added from the back, leaving an overhang of fibrous layers to serve a protective purpose. The appearance of this mat is slightly different, consisting of a more bristly and bouncing appearance rather than the thatched pattern used in *'caws'* design.

Interior coverings are called the *'alool','dermo','gogol'* and the *'hohob'*. *'Alool'* is typically 4m wide and 2m high. It is primarily used for partitioning rooms and sometimes hung on doorways to keep the hut well-insulated. It protects against strong external winds and is attached 8-10cm off

56 *Ibid.,66.*

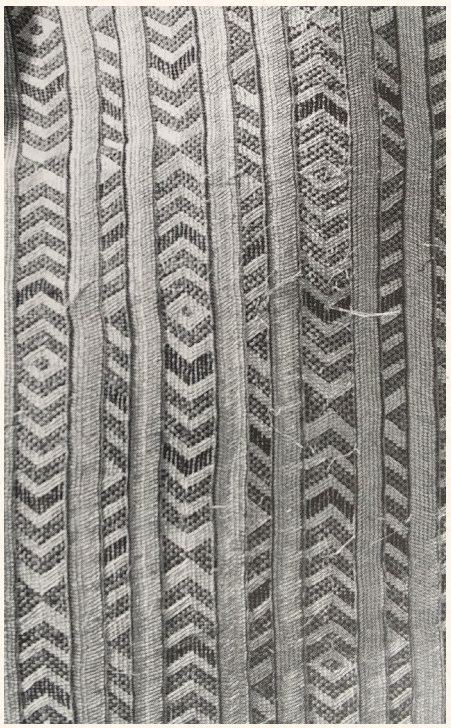


figure 2.20

"Harrar with a sinjab pattern."[57]

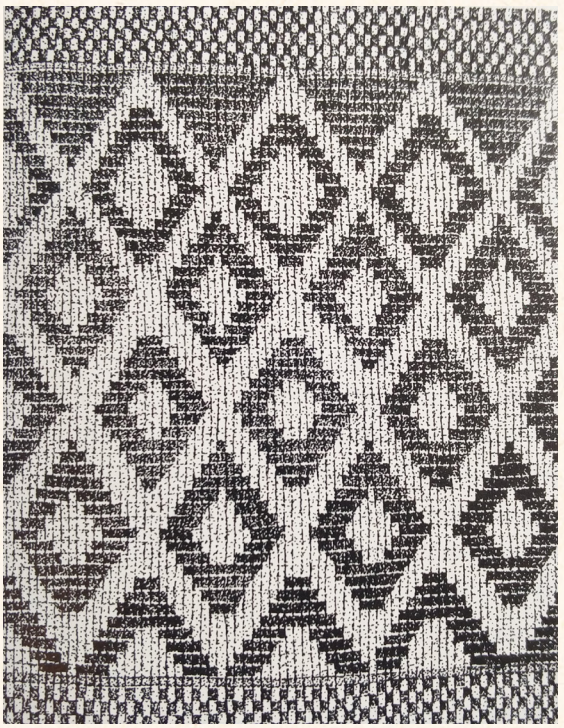


figure 2.21

"Section of a harrar with an iskujoog pattern. Drawing after a photograph."[58]

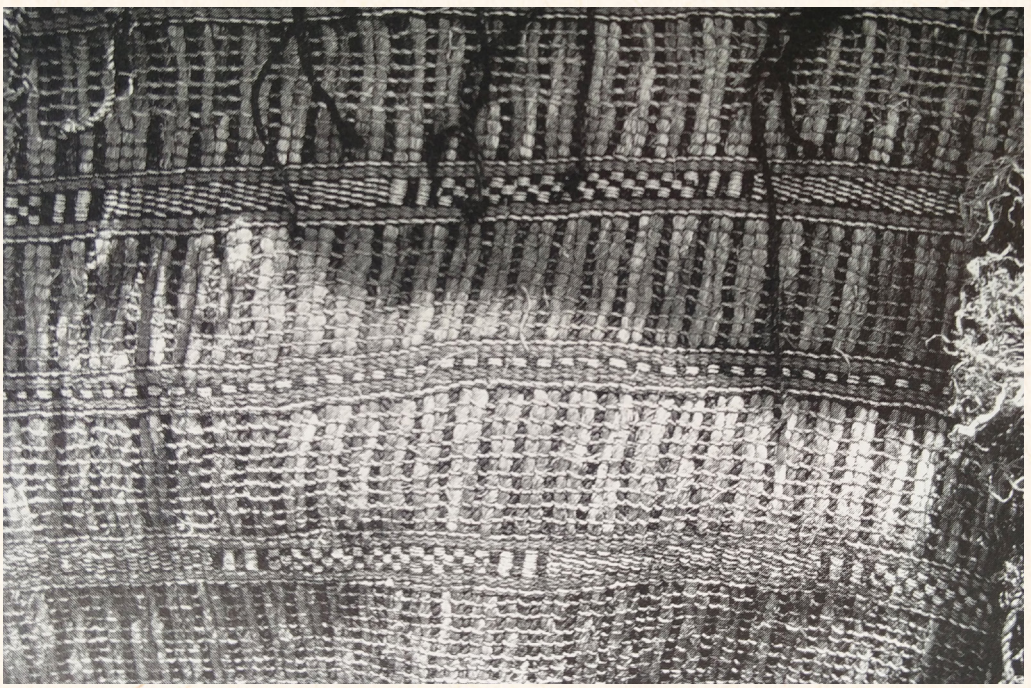


figure 2.22

"Kebed with a jeedalley pattern."[62]

57-59 *Ibid.*, 66.

the ground to allow for cross ventilation. The covering is made from thin reeds called *'duur'* similar to the *'lool'* and contains hints of old fabric tightly knotted. *'Dermo'* are floor mats used either for sleeping or prayer, made from palm leaves woven together. They tend to be cut to strips of 7-8 cm wide and stitched together one by one. The family never walks on them with shoes as they can quickly become damaged. *'Gogol'* are also mats used for sleeping that are typically placed beneath the dermo, depending on the ground's hardness. At times it can be used as a portable bed. It consists of a similar design and weaving pattern as the 'harrar' but is rather small in size. And finally, the *'hobhob'*, also known as the *'xig'*, is solely used as an artistic expression applying intricate weaving patterns. This covering is usually hung from the ceiling and made out of sisal fibers.

Obtaining the sisal fibers is a lengthy process where the leaves are shredded, pounded, and mixed with a small quantity of water. From the newly made mixture, the leaves are buried within a hole quite deep for seven days. They are then taken to a stream or riverbed and washed until the natural green color of the leaves is removed completely; until there only remains white sisal fibers.

The act of creating the hut from the preparation of its materials portrays an extreme level of adeptness and conscientious attitude towards maximizing its built qualities. Every aspect is quite calculated, from the drying periods of natural components to ensuring structural members are not compromised over time. It is clear that the women genuinely care about their noble craft, drawing attention to its sophisticated patterns and unique configurations.

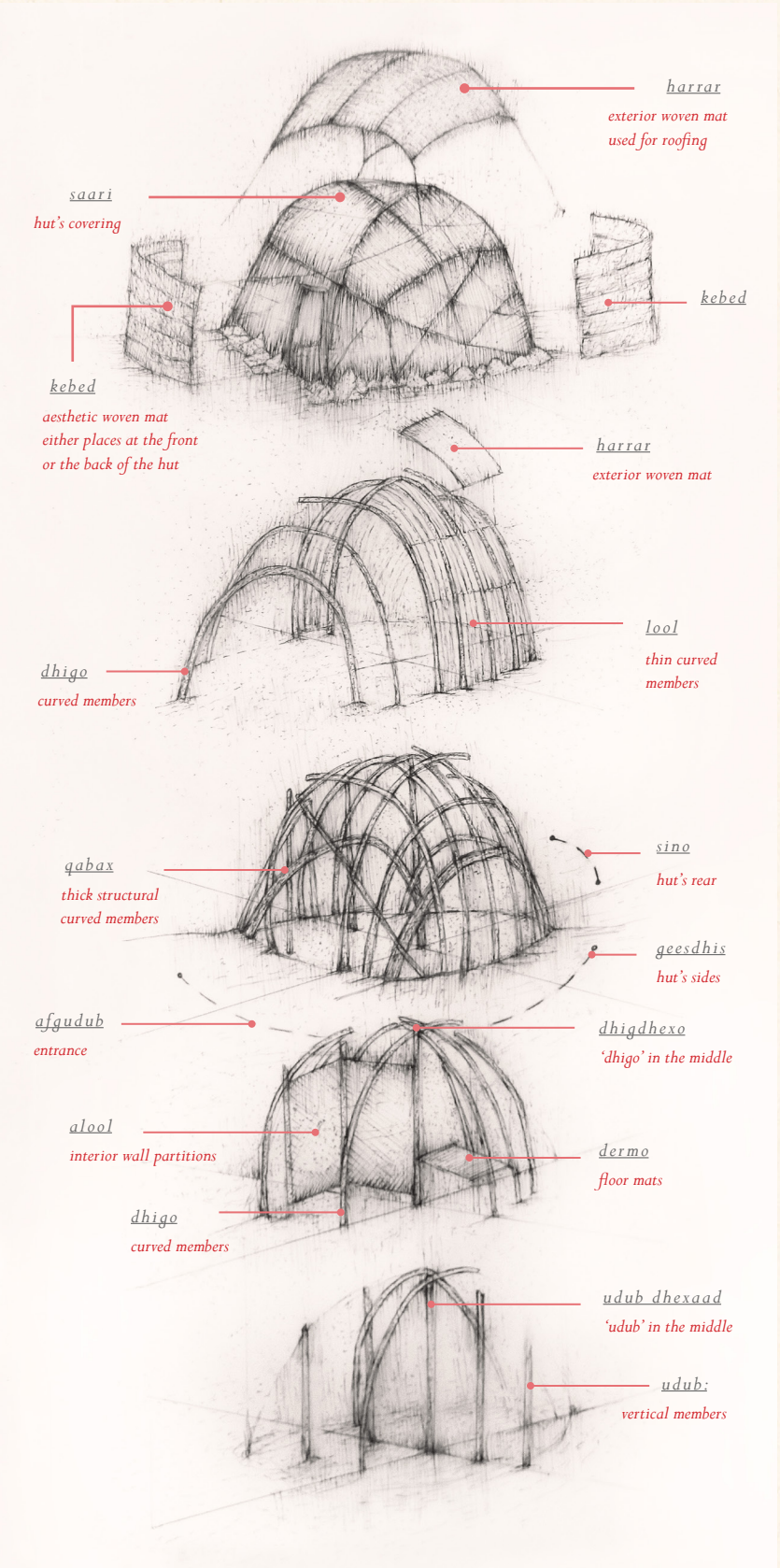


figure 2.23

Nomadic Hut's Structural Components,
Ink on mylar, 21x36"
Drawing by author

2.4 _ Encountering the Kebed

I would never have anticipated the following events to have occurred, especially in a place ever so intriguing. We discovered the rural village, a hidden gem, along my trip to the fertile city of Arabsiyo. I initially came to the town to analyze water collection and irrigation systems. At this stage of my journey, I was already quite used to seeing the presence of Somali huts dominate the landscape. In particular, what mainly drew my eye and attention to this specific settlement, were little fringes of woven mats, resembling the traditional *'harrar'*, sticking out from the blend of jumbled materials along the exterior. The *'harrar'* was a covering widely used in previous nomadic times and is rarely seen on huts today. Throughout my trip, I have followed a personal pursuit to find huts that used techniques from the past. I was stunned to have discovered somewhat traditional huts that were not replicas in a museum. This warm, satisfying feeling rushed over me, and the sight of the woven fabric revived my whole spirit, knowing that these practices remain relevant.

These new non-traditional materials have facilitated the overall construction time and durability of these huts. Sources such as corrugated metal are widely imported throughout the country, where scraps and remnants, either from food tins or metal casings, clad the exterior covering of the huts. Regardless, whether it's fabric or fragmented pieces of metal, these materials are collected and connected in some sense to form a strong armature. The additional components cause the hut to have an obscure nature, where the discovery of such materials hints towards pastoralists changing lifestyles. Rubbish and discarded materials have infiltrated Somaliland's landscapes, where pastoralists may



figure 2.24
Nomadic Huts
Arabsiyo, Somaliland
photograph by author

gather materials they find of use as they head out to graze their animals. These new materials suggest issues regarding sustainability within the country but also within the global context. Content such as plastic endangers both land and aquatic species and thus reduces the quality of natural materials. It renders artifacts and traditional nomadic practices weaker amongst the changing environment.

My cousins and I slowly entered the settlement, where a young woman emerged from one of the huts. From the look on her face alone, I could tell she was confused. She then stepped forward, treading slowly as she approached and timidly greeted us. We thoroughly explained the extent of my research, but she seemed slightly baffled by my fascination with her home. It took awhile for her to get comfortable with our presence, as I seemed to be entirely foreign. I asked whether she'd be willing to share insight into her lifestyle, daily routines, and construction methods of her house. She then started giving us a tour, showed us where they slept, and another separate hut used as their kitchen. She showed us the barrel for rainwater collection and one with water collected from nearby wells. She then pointed at a portable solar panel that generated enough electricity to charge their mobile phones. I hadn't seen this application in other places before, but it made a lot of sense since the cellphone is a tool for connectivity within the country, a device used for transferring money safely.

The young woman mentioned that if I wanted to understand how to make huts properly, I needed to talk to her grandmother. She subtly slips away for a few seconds, my cousin and I then proceed around the settlement, absorbing in everything, starting from the area in which they raised their livestock, to the giant mortar and pestle used to grind grains for their meals.



figure 2.25
The hut's components and morphology
Arabsiyo, Somaliland
photograph taken by author





figure 2.26

The hut's components and morphology
Arabsiyo, Somaliland
photograph taken by author

After a few short minutes, her grandmother, an elderly lady, carrying a firm posture with a witty walk, embraced us with a full, thick smile that beamed brightly from her radiant skin. She instantly made us feel welcomed, grabbing a couple of barrels and insisting we sit instead of stand. She just immediately knew, along with the majority of other Somalilanders, that I wasn't born here, that I was a foreigner. It may have had something to do with my body language or overall presence. At this point along my trip, I became quite familiar with the question, *"where are you from?"*, as people seemed highly curious about my response. I mentioned I was from Canada and explained my reasoning for coming back was mainly to learn about my origins and the traditional practices of nomadism. I then asked if she'd be keen to answer a few questions regarding the process of building. Of course, my Somali was quite limited; so, having my cousin along my side to translate was an immense blessing. She smiled genuinely and nodded, giving me the okay to proceed. I explained the scope of my research, whereby merely looking at her, I could tell she seemed settled by my level of interest. She reassured me that she'd do the best to help me out in any way. We exchanged smiles and began to proceed with the questions.

I began by asking, *"How long does it normally take to build the huts, once the components are prepared?"* She responded, *"After every time we move, it only takes one day to put the hut together. It has to be ready for the family to sleep by night."* I then pointed to the 'harrar' fringes on one of the huts and asked how long did the construction take, and also, why she had used an assorted array of materials along the exterior. She responds, *"It usually takes us twenty days to make the 'haraar mats', and the different materials are used to keep the hut dry and secure whenever it rains."*

I concluded by inquiring why traditional methods of construction have changed, and why does it incorporate modern-day fabrics? She responded, *"Everyone now uses fabric for their huts, because it's in good supply, it's quick to use. But the 'kebed', only a few people still use it. And that normally takes us one month to make."*



figure 2.27
Unrolling the 'kebed', Arabsiyo, Somaliland
photograph taken by author

She then gives me a sly look, following the last question, and asks, *"Do you want to see the 'kebed'? I have one with me if you would like to see."* I was in shock since I had never seen one, besides the replicas within the museum, ones that were on display and forbidden to touch. In my eyes, the amount of knowledge the elder women possessed was remarkable and endless. I viewed her with an esteemed and elevated lens, wishing that I could have stayed a bit longer to soak up all her brilliance.

I followed her as she led the way. A lot of thoughts were circulating through my head as she lifted the fabric screen covering the main entrance. She looked at us kindly and insisted we come in. It was much darker and colder than the temperature outside, and right away, it felt like a different world. I instantly got a sense that it had a unique organizational structure, though it very much felt like some form of incubated life, a home well-lived. She then points to each component of the hut, naming every piece, *"this is a lool, that is the udub, and that is the 'harrar'"*. She then walked towards one section where the kebed seemed to have been tucked away. She reached for a sizable rolled-up mat, needing the help of her granddaughter to carry it outside.

As we exited the hut, they slowly put the mat on the ground and undid the knot that kept it bound together. At this point, everything seemed to have occurred in slow motion; It was midday with the sun gleaming down on us. They begin to roll the 'kebed' forward, revealing its delicate patterning, all within increment fragments of time. Its sharp detailing was exposed for all to see. It was profoundly gorgeous; As I proceeded to touch and feel the patterned, textured mat, all I could hear within my mind were the verses from *'Heesti Kebed'* (song of the *'kebed')*. Within each weave, all the narratives trickled into my memory, causing me to appreciate everything, from the saliva to the sweat buried within it. I needed that beauty to remind and transport me back to the days of old. The *'kebed'* affirmed the role artifacts served to this day, and that remnants of our ancestry cannot entirely be lost in a drastically changing world. The whole occurrence struck me with delight, allowing me to leave the settlement with great assurance.



figure 2.28

Unrolling the 'kebed', Arabsiyo, Somaliland

photograph taken by author



03

Navigating Through Unfamiliar Landscapes



figure 3.0
View outside the caves of Laas Geel
photograph taken by author

3.1 _ Land Preservation:
Traveling East: Laas Geel, Berbera & Sheikh

It was this natural, compulsive force that propelled me to take this journey, as I began to gaze out from my window seat, into the unique environment presented before me like fast-moving stills. I wanted to fully immerse myself within the landscape, hoping to understand the many lost narratives hidden amongst varying places from rural deserts, hollow caves, coastal regions, and vast mountain ranges. I wasn't mentally prepared to cross the threshold of three drastically different cities all within one day. The duration of the trip was approximately four hours one way and an additional four hours back; though traveling time was heavily dependent on the road's condition.

My cousin and I left right after dawn from Hargeisa. It was still pretty dark outside; the roads were quiet, and the sky was filled with reverberating sounds from morning prayer. I could pick out figures of some people headed back home from the mosque, where wandering goats and stray dogs would trickle in the background. We decided to be at Berbera Coast by noon to have lunch. Our first destination was Laas Geel to see the preserved cave paintings that date back to 9000 BC. I was extremely fascinated by the methods they used to inscribe their histories and traditional practices within voids and fissures of rock walls. We would then drive to Berbera to look at its economic development; to understand how Somaliland is staying connected with other countries of the Gulf peninsula through importing and exporting commercial goods. Our final destination was the mountain ranges of Sheikh, which provided a glimpse into how nomadic and pastoralists shifted to higher plateaus to establish a unique way of living.

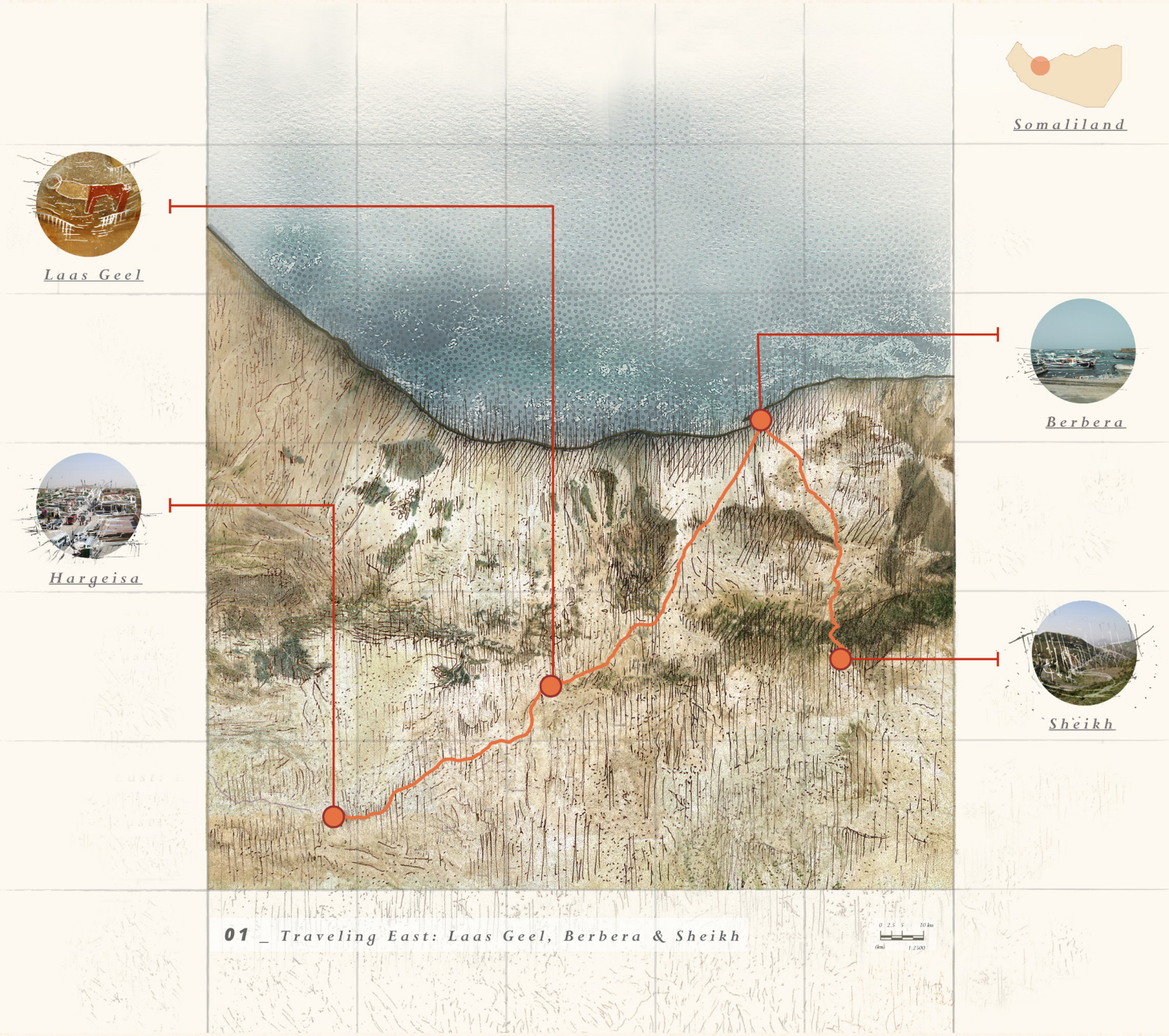


figure 3.1

Journey Map_ Traveling East: Laas Geel, Berbera & Sheikh

illustrated by author

Laas Geel, Cave Paintings

On our way outside the smothered tension of Hargeisa, we begin to emerge into a parched, pebbled landscape that bore traces of flourishing life. Exiting the city gave me a massive sense of relief as if we were coming up for air, inhaling numerous breaths. From the glimpse over the coarse landscape, I kept reminding myself that the sustenance nomads would search for was hidden amongst shrubs, thorned acacia trees, and rigid rocks. Our first destination was Laas Geel. It was a bit off-course from the main roads between Hargeisa and a city called Daarbuduq, about half an hour's drive away. We entered a long stretch of unpaved, gravel pathway that kept jarring and jerking the car for quite some time. We proceeded along a route that had little to no mechanisms for wayfinding. The thought of being lost added to my overall levels of suspense, where I couldn't help but anticipate the caves' grandeur aura.

Near the entrance, the density of jagged rocks intensified, poking out from the earth's surface at random. I inquired, mainly out of fascination about how this spot historically served as a beacon for navigation and a place for ancient rituals. Before we began our ascent up to the caves, we had to stop off at a small information center that primarily informed us about the number of shelters and paintings that still remained. I glanced afar, trying to understand how human beings have the inherent and natural instinct to construct relationships with their landscapes, connecting themselves with external elements.



figure 3.2
Outside the caves of Laas Geel
photograph taken by author



figure 3.3
Within Laas Geel
photograph taken by author

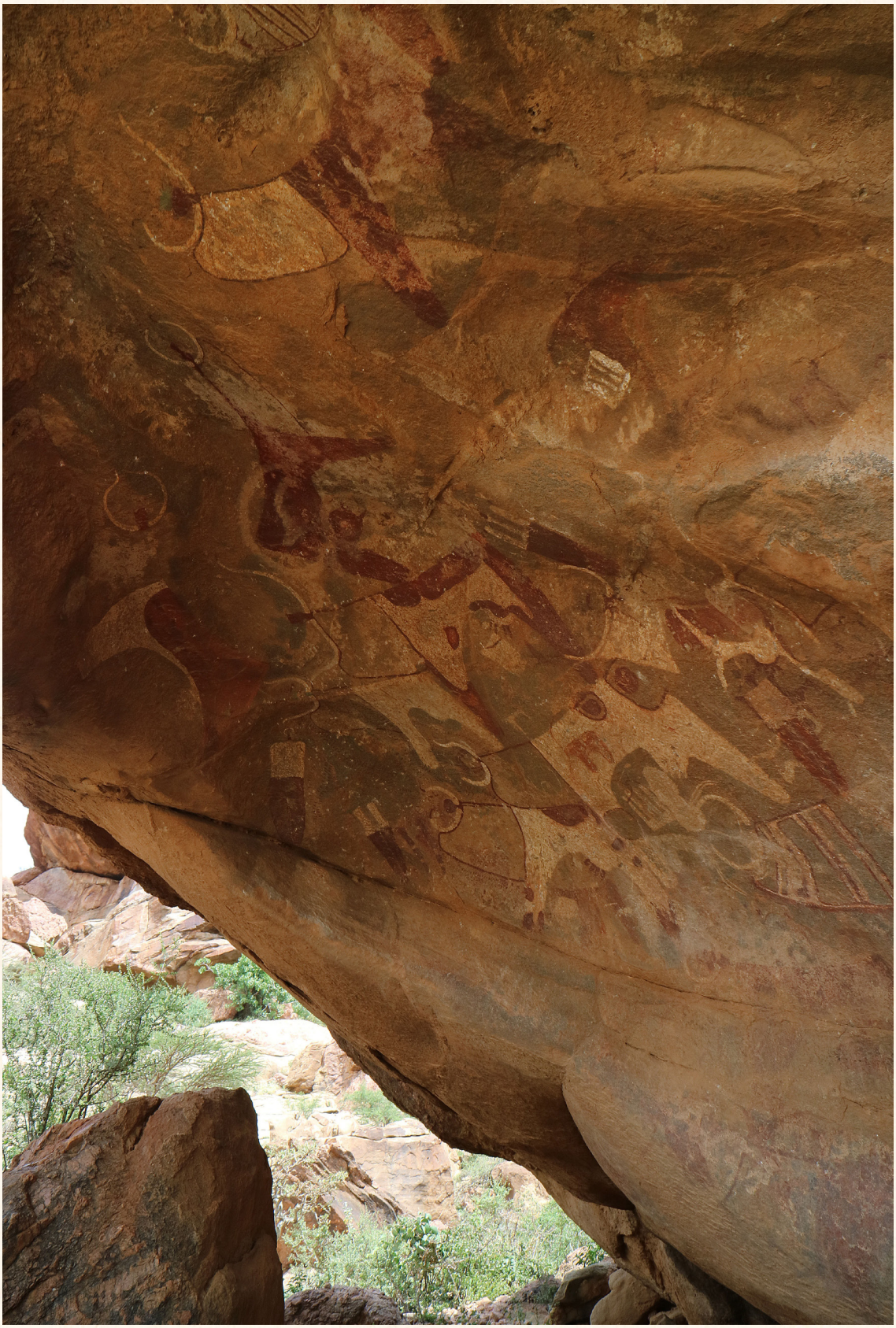


figure 3.4
Cave paintings of Laas Geel
photograph taken by author

A set of steps have recently been constructed alongside the cliff to facilitate the climb up for tourists. I wondered how those in the past made the journey up, without the assistance of these steps. I was also intrigued to know that individuals would continually go back to this location and contribute to the ensemble of mesmeric paintings. It was merely remarkable that they would submerge themselves within the chambered depths of the earth to profess their stories and sacrifices. There was a great sense of mystery as we immersed ourselves and entered the first shelter. Daylight illuminated the dark cave, casting rippled shadows, as it made apparent the first set of images for us to appreciate. These paintings were stunning as if they merged within the billowing nature of the rocky ceiling. The profiles of animals depicted in the image are drawn in a way to accentuate the stone's cavities (figure 3.8).

The paintings have been present for many centuries, although it was only in 2002 that an international and tourist-based audience began to take notice of them. The massif of Laas Geel stands as a towering granitic mountain amongst the arid landscape. On the ground level, near the forefront of the mountain, is the intersection of two *'wadis'* (seasonal beds that remain dry except for rainy seasons). The caves are located on a permanent water table, where the literal translation of *'Las Geel'* in Somali translates to *"The dromedaries' (Somali camel) watering hole."*[60]

The cave painted panels spread out approximately 20 shelters, the largest shelters can reach a height of about 5m in-depth and a width of about 10m. Some shelters have eroded due to natural factors such as wind erosion, which had occurred drastically on at least three levels. On the

60 *Laas Geel, Information Boards. Visitor's Center.*



figure 3.5

Location sites of cave paintings [61]

61 *Guide to the Laas Geel Cave Paintings in Somaliland 2018. Once in A Lifetime Journey. https://www.onceinalifetimejourney.com/once-in-a-lifetime-journeys/africa/guide-to-the-laas-geel-cave-paintings-in-somaliland/.*

southeast entrance of the caves lie the first shelter, which contains the richest preserved rock paintings. The sacred space is roughly around 164m^2, with an area of about 97m^2; the ceiling is slightly inclined inwards. The number of illustrations recorded is approximately 350, where the paintings are situated on the left sides and roof within the shelter. There is no sign of human alteration or damage to these images as they remain in good condition. Small areas, however, have slowly weathered, though there are small blots and smudged areas.

The paintings depict many images of bovines (resembling cows & oxen) that predominantly fill the space. Some of the bulls are seen having large necks or thorax areas decorated with different patterned garments that show stripes and others with radial, circular patterns (figure 3.8 & 3.9).

"The lower limbs are spindle-shaped, merged, or separated by a simple stroke or a vertical space. The upper limbs are filiform and always spread open, making the body appear cross-shaped. The head is small, either punctiform, rounded, or put on its side and set above a truncated neck, on which sometimes painted horizontal strokes which appear like neck rings one on top of the other. This head can be surrounded by a pointed "crown" or by small radiant dashes. In some cases, a kind of feather headdress appears on one side of the top of the head. These characters sometimes carry a bow, a stick or possibly a small shield. They are systematically associated with the bovines and are placed, either under the neck, under the belly, or more seldom behind the rump."[62]

62 *"Journal of African Archaeology." 2003. Journal of African Archaeology.; Journal of African Archeology.*



figure 3.6
Close-up of cave painting
photograph taken by author



figure 3.7
Close-up of cave painting
photograph taken by author





figure 3.8

Cave paintings of Laas Geel
image depicting man and bovine
photograph taken by author

Along the northwest portion of the site is the seventh shelter, which has a wide entrance and ample terrace space. The area was buried and covered with rocks from an earlier collapse that occurred at a higher part of the cliff. A large amount of sediment was preserved and later tested. It was fascinating reading about the hypothesis that occurred from the tests, inquiring about the range of activities that potentially occurred within the space.

"In fact, they have made it possible to recognize the presence of two alignments of stones no doubt fairly recent, if not contemporary. Most probably it belongs to a superficial installation, whose nature remains unclear (terrace wall to retain earth remains of a system of enclosure of shelter for penning animals?, the remains of a dwelling?), A pit, with an internal arrangement made up with granite slabs with a pronounced dip, suggests the emplacement of a monument with perhaps a funerary purpose. The stratigraphic analysis of test pit 2 put in evidence several phases of human occupation with a very abundant lithic industry."[63]

The alluring mysteries within the nooks and carved out niches are remnants of their unheard stories. Within the sediment are secrets left amongst rocks unturned and dust accumulated on surfaces, seeping through cracked walls. Every shelter within Laas Geel has some sense of kinetic power emanating from all areas. Even the particles within the air are charged with a majestic aura, transporting us back to times when our belief in the lively universe was endless. I cannot help but re-imagine myself within archaic times, appreciating the resourcefulness of the cliff edges and its scenery. It allowed nomads to extend their view into the limitless horizon, granting them the ability to see the best grazing areas and abundant water supplies.

63 *Ibid.*, 113.



figure 3.9
Close-up of cave painting
image depicting a herd of bovines
photograph taken by author

Haptic Enclosures:

Billowing Rock, Undulating Surfaces, Anthropomorphic, Figures in Space, Sacrificial Secrets





figure 3.10
Close-up of cave paintings
photograph taken by author



figure 3.11
Within Laas Geel
photograph taken by author



figure 3.12
Rock Formations, Laas Geel
photograph taken by author

Berbera, Coastal City

"Berbera from the water looked beckoning. The sea was calm and turquoise, and the level shoreline was yellow sand. A few palms and pepper trees grew around the town, and the houses appeared pure white, their blemishes concealed by distance."[64]

We had to keep our windows shut with the air conditioning on full blast. It was scorching hot, the exterior temperature on the car surpassed 45°C, though it was still climbing. I was worried about the condition of the vehicle, wondering whether it would be in good shape to continue on the journey. As we emerged within the city, I was shocked to see people walking to the market and carrying about their daily routines outdoors, despite the unbearable temperatures. I noticed that the city even had this economic drive, the need to expand as new buildings and developments underwent construction. The shore-front was a mix between shipping docks and people along the beaches, cooling down from the heat as they continue to swim. During my trip in 2018, I remember running across the burning hot sand to be embraced by the breadth of cold water from the Indian ocean. The cold sensation engulfed my entire body, creating an invisible barrier from the heat. The ocean held me idle and safe, as the swaying motion from the waves rocked me back and forth. The industrial growth also held promises of extending and connecting Somaliland's seaport to the rest of the Gulf Peninsula.

64 *Laurence, Margaret. 1963. The Prophet's Camel Bell. 1st ed. Toronto: McClelland and Stewart.*



figure 3.13
Coastal Port, Berbera
photograph taken by author

"The only seaports of importance on this coast are Feyla [Zeila] and Berbera; the former is an Arabian colony, dependent of Mocha, but Berbera is independent of any foreign power. It is, without having the name, the freest port in the world, and the most important trading place on the whole Arabian Gulf. From the beginning of November to the end of April, a large fair assembles in Berbera, and caravans of 6,000 camels at a time come from the interior loaded with coffee, (considered superior to Mocha in Bombay), gum, ivory, hides, skins, grain, cattle, and sour milk, the substitute of fermented drinks in these regions; also much cattle is brought there for the Aden market."[65]

It was midday, and the sun had reached its highest point in the sky. It was a time where everyone, even the animals, underwent a siesta. We decided to stop at a restaurant known for its prized seafood cuisine. As soon as I opened the car door, the immense heat infiltrated my senses and smothered me from all sides, making it hard for me to breathe. I looked around and noticed that nothing was moving, there was no wind wavering the trees and animals were reclining underneath, seeking refuge within its shade. I saw a cat whose body stretched out along the grass motionless. I questioned whether the cat was still alive; as I came closer, I noticed that it blinked, and a sigh of relief fell over me, knowing that it was. The birds sitting on nearby

65 *Hunt, Freeman (1856). The Merchants' Magazine and Commercial Review,Volume 34. p. 694.*



figure 3.14
Coastal Port, Berbera
photograph taken by author

trees were hovering over the restaurant's tables, trying to catch scraps of food as the customers left. We ended up sitting close to the shoreline; therefore, it was slightly more relaxed. We ordered a dish typical to the region, which is rice accompanied with a tangy fish sauce. There was a pleasant glimpse of the loading docks as they packed, and unpacked shipping containers filled with cargo. While waiting for the food, I was analyzing the animals' movement patterns. The birds on the trees had their beaks wide open, maybe due to the heat or other external factors. As soon as the food came, all the animals gravitated towards our table as if it were magnetic. As I eat, I begin to sympathize with the cats and birds, tossing smaller pieces of fish towards them, knowing that they will struggle to gather enough food for the day.

As we exited the city, we found ourselves situated in an amber-toned landscape of vast deserts, large rocks, and scattered shrubs. And within this repetitive nature emerges occupied spaces such as factories, houses, and huts, similar to discovering pebbles within fine grains of sand. It was interesting seeing how these factories were constructed in a similar tone to their surroundings, using rusted steel or tan-colored plaster for its exterior. These buildings enhanced the notion of scale, especially amongst the grandeur nature of the mountains (figure 3.15 & 3.16).



figure 3.15
Factory near the coastal city of Berbera
photograph taken by author



figure 3.16
Factory near the coastal city of Berbera
photograph taken by author

Effused Landscapes:

Cavernous Hallows
Earth's Depths
Sunken Below
Hidden Within





figure 3.17
On route to Sheikh, Somaliland
photograph taken by author





figure 3.18

On route to Sheikh, Somaliland
photograph taken by author

Sheikh, Mountain Range

The road on the way to Sheik wound up to the heavens, spiraling upwards in a continuous, circular motion. It felt like a sacred ascension, especially coming from the hot plains of Berbera. The drastic elevation change made the temperature surprisingly much colder, where it was about 15 degrees with strong, forceful winds coming from all sides. It was surprising to experience varying landscapes all within one country. There were also divine religious scripts written on large boards along the road, sort of like spiritual wayfinding tools, that supported this idea of a divine awakening.

"At the topmost part of the world, in the hills that jutted blue-brown and jagged out of the flat hot plain, Sheikh stood, a few dwellings scattered along the slopes and across the valley where the grey twisted fig trees were nested in by green pigeons."[66]

The vegetation sprouted uncontrollably, encompassing patches of life and drawing animals towards its plentiful, beautiful nature. Plants such as aloe vera and other shrubs grew abundantly along the cliff's side. Nomadic huts were also situated profoundly on the mountain's sides, planted firmly to prevent the winds from shaking them vigorously. This method of construction was something I've never seen in the country before. I wondered what their prime reasons for building at such elevated locations, whether natural forces and uncontrollable elements affected their choice of site.

66 *Laurence, Margaret. 1963. The Prophet's Camel Bell. 1st ed. Toronto: McClelland and Stewart.*



figure 3.19
Mountain Range. Sheikh, Somaliland
photograph taken by author

There were lookout points alongside the mountain range as we made our way to the top. At this point, we'd been driving for quite some time, and the car's engine had undergone fluctuating temperatures while enduring unfathomable levels of heat. As we began to drive further upwards, the car immediately stopped, forcing us to pull and halt towards a religious sign that said, *"Allahu Akbar,"* God is Great (figure 3.20). Neither of us was ever angry or could have anticipated the predicament; I had a gut feeling that this was bound to happen. We waited a while for the car to cool down. All I could do was take a deep breath, embrace the fresh air, and wait for the temperature to cool down the engine, along with easing our wavering hearts.

After an hour or so, the car thankfully turned on; its engine murmured as we headed towards the last lookout point. The view seemed catered towards tourism, where a lodge made out of concrete was still under construction (figure 3.21). However, the view was exceptional, and the wind at the mountain's peak was extremely violent, disseminating life within the threads of my scarf as it tossed it around. I decided to venture towards a diverging path, proceeding with great hesitation. As I took my first steps, the sensation of vertigo rushed over me, causing me to fear the loss of my balance, from the loose graveled earth beneath my feet. Despite being reluctant, I glanced around the scenery and instinctively decided to proceed past the collaged layered greenery amongst sharp-edged rocks.



figure 3.20
Roadside religious sign. Sheikh, Somaliland
photograph taken by author



figure 3.21
Tourist lodge under construction. Sheikh, Somaliland
photograph taken by author

I stumbled across some goats finicking around cacti and aloe vera plants, as I tread through the unstable path. I glanced deeply into one of the goat's baffling eyes; I wondered what on earth brought it up to this height, especially a place where it took a long time for us to drive to (figure 3.22 & 3.23). What I didn't notice at first, was that in the distance there was a family around their hut, enjoying one another's company. I suspected the goats belonged to them. I proceeded to walk towards them in hopes that maybe they could help answer my inquiry. The path got extraordinarily narrow, and I had absolutely no confidence regarding the soil quality. As I proceeded, each step became more unstable, where my foot slid on loose gravel below. I looked at the goats again and hoped that they would lead the way and guide me back.

I desperately wanted to go over, but at this elevation, the force of the wind was greater than I, as if it were giving me a strong, firm push. And with every step, I could feel this internal force propelling me forward, but the immense fear I had simply from looking down the mountain caused me to turn around. At that very moment, I froze as I watched the family continue on their daily routine. I appreciated the amount of courage and strength they had to establish a means of living in such a unique place. This family revived my belief in mankind's overall versatility and perseverance. As I sluggishly walked back to the car, I was constantly reminded about the family living at the highest peak. Their whereabouts, daily rituals, and conversations piqued my curiosity, making me wish that I had enough courage to walk over to their home and linger in their presence, getting a tiny glimpse into their reality.



figure 3.22
Grazing goats. Sheikh, Somaliland
photograph taken by author



figure 3.23
Grazing goats. Sheikh, Somaliland
photograph taken by author





figure 3.24

Mountain Range, Sheikh

photograph taken by author

Idle Existence

There is tiny life
Hidden within seams
Camouflaged,
At great distance





figure 3.25

Highest peak, Mountain Range. Sheikh, Somaliland
photograph taken by author

3.2 _ *Infrastructural Development:*
Traveling West: Arabsiyo, Gabiley & Borama

There are more accounts of frequent rains along the Southwest portion of Somaliland. "The amount of rainfall received annually reduces further to the north except for areas around Sheikh, Hargeisa, and Borama that receive between 500 mm and 600 mm per year."[67] During this segment of the trip, I noticed the landscape becoming a little lusher, where the atmosphere hinted signs of prosperity within the formation of rain clouds. There were numerous accounts of sudden rainfall throughout the day as the dry season reached its end. I could see how people responded to the increased precipitation through channeling and collecting water. Some areas had overabundant plant growth that filled the cities and streets with distinct aromas. I genuinely believe Somaliland has a lot to offer, whether it be within traces of parched land or deep within Earth's depths. The revival of these depleted areas symbolized the rebirth of a nation. It could be seen through the enduring growth of trees and the forthcoming, rumbling sounds from clouds that filled the skies.

The trip started in a city called Arabsiyo, known for its widely exotic produce, ranging from fields of palm to papaya trees. I also got to observe mechanisms in which water was conserved and redistributed mainly to benefit the overall production of a farm. From there, I went to Gabiley, a town very close to my ancestral roots and family origin. Through personal accounts, I got to understand the importance of seasonal river beds, ponds, and springs, especially how they orchestrated the movement of animals during certain times of the year. Lastly, I would stop in Borama; a town celebrated for its alluring beauty, where the increased rainfall has proven to challenge the built quality and stability of developing huts.

67 *Abdulkadir G (2017) Assessment of Drought Recurrence in Somaliland: Causes, Impacts and Mitigations. J Climatol Weather Forecasting 5: 204. doi:10.4172/2332-2594.1000204*



figure 3.26

Journey Map _ Traveling West: Arabsiyo, Gabiley & Borama

illustrated by author

Arabsiyo

We were greeted by a warm, sweetness in the air as we entered the city. Arabsiyo has always been a prime vacation destination for many of those living in Hargeisa, due to its unique vegetation and temperate climate. The image imprinted firmly on my mind from my first trip to the town were date palm trees lining the roadside with herds of camels juxtaposed perfectly within the spacings. The moment heavily reminded me of the painting *"Le Blanc Seing"* 1965 by Rene Magritte. The repetition of camels grazing on growing date palm trees with herdsmen along the perimeter was quite sublime, a moment preserved in my memory harmonically.

Arabsiyo was the first town I saw many efforts towards establishing a strong agricultural presence. There were many greenhouses and vast fields of growing sorghum and other essential grains. The abundant rain led to more opportunities to apply rainwater collecting systems and other applications to yield a variety of produce. The land's fertility meant that farmers and those in the agricultural practice benefited quite well from substantial economic gains. It was the first time that I got to see the works, operations, and logistics behind the efforts it took to run a *'beraha'* (farm) in the context of Somaliland. The farmers were successful in understanding which fruits and vegetables were favorable and those that could tolerate certain seasons. There were dams and dug



figure 3.27
Papaya trees, Arabsiyo, Somaliland.
photograph taken by author

wells on site. They even had controllable piping that allowed individuals to redirect and stop the flow of water. The collected water was directed towards the greenhouse and aided in creating a separate microclimate for plants to thrive on.

As we approached the farm's borders, I was introduced to something they called a *'ceelka'* and *'riig'* (which translates to a borehole or dug well). I'm still not sure which one it entirely was, as I stood along the outer edges to get a closer look, I did not feel so safe looking down at the large void within the unstable ground. The men who owned the farm mentioned that the borehole went down 32 m, which was very deep. The entrance seemed to have a corrugated steel roof, protecting the pathway and steps from weathering away. The roof was also set at an angle to facilitate water drainage into the well (figure 3.28). The roof didn't seem entirely secure, as large stones were placed along its perimeter to prevent it from falling or being carried away by strong winds. There was a machined water pump solely for extracting collected water. I feel that Arabsiyo gave me a glimpse of hope, especially regarding the future of Somaliland. One where it can learn to employ techniques and skills that aid in land mitigation, more importantly, improving overall soil qualities within scorched areas.



figure 3.28
Metal roofing on a 'riig' dug well. Arabsiyo, Somaliland
photograph taken by author



figure 3.29
looking down a 'riig' dug well. Arabsiyo, Somaliland
photograph taken by author



figure 3.30
Greenhouse. Arabsiyo, Somaliland
photograph taken by author



figure 3.31
Agricultural fields. Arabsiyo, Somaliland
photograph taken by author

Fertile Land:

In rows, they grow
Harvested by hands
Grasped ever firmly
In precise disposition





figure 3.32

Agricultural fields. Arabsiyo, Somaliland
photograph taken by author

Gabiley

Gabiley, a town genuinely dear to me, is a place where my distant family primarily resides. Whenever people in Hargeisa asked where my family was, I'd always reply, *"Reer Gabiley, ayaanahay, I am from Gabiley."* Though it more specifically implied that my family and lineage all come from Gabiley. It's the origin of my father's roots, the place where he began his life as a young shepherd tending to his flock of goats and sheep while collecting water from nearby wells. It was where he went to high school, the location of his local mosque, the busy markets, the place where all his family, friends, and memories resided. It was his first home, birthplace, one from which he had to forcefully emigrate.

I managed to get my aunt to trust me to go to the market alone to get vegetables and meat for tonight's meal. I threw on a bright golden-orange *'jilbab'* (long scarf) she made for me; It was one of my favorites. It had a large slit along the middle where I could hide my purse with change and a small disposable camera. I had a sense of where I was going, though I was becoming a little lost within the quaint homes and makeshift huts. I was near the entrance that cast a familiar ambiance from the rising sun on fabric sheets that hung on poles. Everywhere had a recognizable scent, the homes, the cuisine, and the air itself. I would kindly grin while bartering on prices for food, something I've learned to do calmly in the country. While walking around the city, it was weird having people instinctively know who I was, even though I haven't ever met them. Some would shout across the roads, *"Inan Hassan ba tahay!"," You are the daughter of Hassan!" "Ha! Yes,"* I would reply as I would nod and smile back in return. Sometimes I wonder how in the world did they know, but it's a small town, as I reassured myself that everybody always knows everybody.



figure 3.33
Residential area. Gabiley, Somaliland
photograph taken by author

On my way back from the market, I would stop to collect rocks along the way as they looked quite different compared to ones I've seen in other cities. I mainly appreciated how time revolved around daily routines at a languid pace, something much different from the fast-paced nature of Hargeisa. There was something about Gabiley that made me feel reassured, where I did not feel so strange. Gabiley had ease written all over its streets. There was no sense of hustle, just a place to relax, sit back, and enjoy the subtle changes within seasonal shifts.

The aura of serenity translated nicely within households where everything seemed a lot less tense. I always had to limit my water intake and consumption to use what I needed. My aunt's house did not have a sink as we washed dishes in buckets, separating clean water from greywater. They didn't have any running taps, just a large water container in the middle of the house, and one water tank outside the house. Whenever making ablution for prayer, we would use watering pots with just the right amount to finish. There was no concept of using in abundance just for the sake of it. Taking a shower was done very quickly, not a relaxing pastime. For starters, the water was ice cold, and I would always limit myself to one full bucket. At first, I had to grind my teeth to make it through showers, but eventually, over time, my body adapted. The cold showers complemented the hot days nicely; it slowly became something I looked forward too to cool off. I would always joke around, saying if someone ever wanted hot water, they'd have to wait till mid-day when the sun rays hit the water tank. It was only then that the water would be bearable, as the sun would be at its highest point in the sky, reaching its maximum temperature.



figure 3.34
Residential area. Gabiley, Somaliland
photograph taken by author



figure 3.35
Residential area. Gabiley, Somaliland
photograph taken by author

Daily Routine:

Leaving your family
A few hours past dawn
To gather enough food
To last an entire day





figure 3.36

Central Market. Gabiley, Somaliland
photograph taken by author

Borama

In Borama, the air was entirely humid, with mild winds that wafted a saturated odor smell along our path. I instantly knew that it had just rained a couple hours ago and that more predicted rains were to follow. Massive mountains bordered the town, though it was not on the same scale as the ones I've seen in Sheikh. Borama is a large city, where the streets had a similar bustling vibe to Hargeisa. The town was indefinitely more lush with flowering trees and many shrubs. Deep ditches were constructed alongside roads to channel away excess amounts of water to prevent floods. Transportation was also more rapid and efficient; there was even a *'bajaaj'* (mini taxi) service, which I have not seen in any other city. Borama is currently a fast-growing city, and has become quite attractive due to its abundant resources and the developing economic sector.

I was on my way to view rural huts along the outskirts of the town, but I couldn't help but take in the quality of shelters within the city. These temporary dwellings looked soggy, as if they were still wet from a previous rainfall. On our way to the settlements, I caught a glance of two pastoralists guiding their camels loaded with the components of a hut,



figure 3.37
Goat Grazing. Borama, Somaliland
photograph taken by author

who seemed to be moving. It was the closest I've been to herders searching for new grounds. It was within these fields that I completely understood how sporadic rain dictated the language and movements of both animals and pastoralists. The forthcoming drumming sounds from clouds generated the feeling of prosperity and assurance as heaps of rain embraced the earth. Though it did seem like there were still obstacles preventing everyone from achieving a prosperous life.

The rain orchestrated the movement of individuals throughout the day. Routines had to be complete before the rain overshadowed individual routes. Sometimes it would rain very slowly, often causing water tanks and water barrels within households to overflow. All house typologies within Somaliland have a central courtyard that is not covered, and all the occupied space falls along the perimeter. Therefore it is easy to experience and enjoy the thrill by heavy, fierce rainfall. The rain served as this gravitational force that drew motion either away or towards it, for those seeking shelter and those seeking sustenance. It was this medium that controlled all life around it; it was the universal conductor.



figure 3.38
Make-shift huts. Borama, Somaliland
photograph taken by author



figure 3.39
Residential area. Borama, Somaliland
photograph taken by author

Amongst Rubble:

Scavenging for scraps
Useful in unknown ways
Hidden under stones,
Lost amongst the horizon





figure 3.40

Residential area. Borama, Somaliland
photograph taken by author





figure 3.41

Residential area. Borama, Somaliland
Photograph taken by author



04

Traces & Remnants of Water



figure 4.0
Outskirts, Hargeisa, Somaliland
photograph taken by author

4.1 _ The Didactic Narratives of Water

"Somaliland people's ability to make a living is severely challenged by periodic droughts and flash floods.[...] flash floods and droughts are the two major disasters that adversely affect the agricultural sector and livestock production of the African region."[68]

In Somaliland, the presence and absence of water constructs a narrative within the landscape as it traces, moves, and leaves behind materials along its course. Attaining water within these shifts from dry to wet seasons has become a constant struggle, not only for pastoralists but also because it strains the earth and reduces the soil's ability to absorb the elusive contents. During the long rainy season of *'Gu'* (between April - June) and the short rainy season of *'Deyr'* (between September-November), rainwater is collected through water wells, dams, tanks, and stored in containers of various sizes. During the long driest season of *'Jilaal'* (between November-March), along with the short dry season of *'Hagaa'* (between May-August), groundwater is pumped out from the depths of the earth and is extracted through mechanical means.

Water wells, during drier seasons, were prime gathering points that belonged to the greater public and not solely left for individual clans. The idea of land ownership followed a similar model; land only belonged to tribes when occupied, if the land remained unoccupied, then it became open for public use. Historically, mutual agreements were set between specific tribes regarding shared ownership of

68 *Kaufman, Roni. 2011. Crisis as an Opportunity : Organizational and Community Responses to Disasters. Lanham, Md: University Press of America.*



figure 4.1
Outskirts, Hargeisa, Somaliland
photograph taken by author

wells. Neighborhoods and communities alternated shifts, having different watering times throughout the week. Water wells were the central hub for sharing stories, as the poem itself was a symbol that constituted the entirety of pastoral culture. The duality of water can either be viewed as a beneficial means for communities or rather, it can become a source that often inflicts harm. As the water mixes with other materials, it carries objects both visible and invisible to the human eye- such as microscopic organisms that can render individuals ill through contamination. Water gives life to scorched areas of land but also destroys living organisms as it overflows and surpasses its limited capacities. Water's unpredictability instills the need for us to mitigate and control its course, compelling us to redirect these properties to our beneficial use.

"After a season of low rainfall or the late appearance of the monsoon famine-like conditions prevail and the scenes around the few perennial water centers are extremely distressing. For miles around the wells every edible particle has been devoured and the surface has been converted into a dust bowl by the incessant movement of thousands of parched animals. Reduced to skeletons by starvation, the emaciated creatures, covered with sores and moving in a cloud of dust becomes an easy prey to the hyenas, jackals, and even carnivorous birds, while flies in swarms perpetually worry them."[69]

Pastoralists and nomads anxiously look for any chance of rain as the dry season comes to an end. In times when the rain is late, resources for their animals and themselves are limited, causing people to uproot and strip the earth of its vegetation. Soils become scorched when they are exposed to prolonged heat from the sun, where rain cannot penetrate the ground. Instead, the rain formulates smaller pools or entirely runs off the surface until it meets nearby drainage

69 *Thompson, A. B. 1943. "The Water-Supply of British Somaliland." The Geographical Journal 101 (4): 154-160. doi:10.2307/1789674.*



figure 4.2

Outskirts, Hargeisa, Somaliland

photograph taken by author

routes. The amount of rain and depths of these channels dictate whether a potential flood will happen in a specific area, preventing travelers from continuing on their trek, until floods recede. These recurrent incidences leave traces of lethargic heaps of mud that flow and coat the topsoil but contain residues of gravel and sand, which decreases the surface's permeability. At times these traces of water come into contact with a wide range of toxins, washing over carcasses of animals and trash sites, rendering the quality of the water useless and polluted, thereby increasing the overall harm to its surroundings.

"The wet season breaks in April-May with spasmodic showers or violent, but very local, thunderstorms, and in a few days the favored districts are transformed from arid wastes with withered scrub to green, grassy plains with leafy shrubs.[...] The gregarious thorn (acacia) sprouts some time ahead of the rains, and a single shower develops a rich foliage and blossom buds."[70]

The rain holds promises of life, seeped within the clouds. It fills nomads' souls with great assurance for the land. It wasn't until I found myself caught within the sporadic rainfall that I completely understood the concept of traveling towards bodies of water. The scent of reassurance filled the air, and the rumbling sounds of thunder were celebrated. Near the end of the rainy season, the water table of many river beds would rise. Where within cities, such as Hargeisa and Burao, many excavated shafts have been constructed along the riversides to yield some residual water that can be stored till dry season. In contrast, the story of thirst amongst bodies of restless animals tended by pastoralists and nomads, waiting and lingering at water wells, becomes a narrative commonly instilled in the minds of many individuals.

70 *Ibid., 153.*



figure 4.3
Sporadic Rainfall. Borama, Somaliland
photograph taken by author



figure 4.4
Polluted River Bed. Hargeisa, Somaliland
photograph taken by author



figure 4.5
Polluted River Bed. Borama, Somaliland
photograph taken by author





figure 4.6

Water & necessity, on route, Daarbuduq
photograph taken by author

4.2 _ Network of Necessity: Methods of Storage and Redistribution

Hargeisa

Water in the city has a systemic characteristic, and the lack of proper infrastructure has left areas quite limited in terms of its transfer. The citizens of Somaliland strive to use water adequately, never discarding it in a wasteful manner. Water and the built urban fabric are separate entities, one extrapolated from the other, there is no interaction with built forms and the public realm. The city needs to treat the occurrence of rainfall in a porous manner, allowing it to embrace surfaces and textures.

Within the city of Hargeisa, the primary water sources were accessed at a nearby village, located approximately 40 km away, called *'Gee d Deeble'*, which was established in 1972. The area consists of boreholes that were controlled by the government.

"12"-pipes take water from Geed deeble to Biyo shiinaha reservoir (the main water storage of Geed deeble). The water is then transferred to the next reservoirs in the Sheedaha area (a neighborhood in the North of Hargeisa), which in turn transmit water through small pipes to provide drinking water to the city."[71]

71 *Tapanainen, Maippi.Water and the City of Hargeisa. https://afrikansarvi.fi/issue3/34-reportaasi/90-water-and-the-city-of-hargeisa.*



figure 4.7
Method of water distribution using "gaari dhameer" donkey car in Hargeisa, Somaliland
photograph taken by author

The current water infrastructure of the city hasn't developed to reach the town's extents. Water storage units were initially built within Hargeisa to provide sufficient water for up to 300,000 people, which equated to its population size in earlier times. Currently, the number of people has more than quadrupled, reaching around 2 million inhabitants, therefore increasing the imperative necessity for both water and available land. People are struggling against the fast-growing economic value of houses near water supplies, creating a divide in the cultural dynamics of the city. In general, the water provision within Hargeisa is quite limited where newer homes along the city fringes cease to have proper tap systems, and entire neighborhoods and growing businesses also experience the same level of scarcity.

There also consists of privately owned wells, in another smaller town situated at least 30 km on the east side of Hargeisa called *'Aw-Barkhadle'*, where trucks would drive almost daily to fetch water.

"More than 60 trucks (booyad) drive there every day. According to one of the owners of the wells, depending on the volume of the trucks, the water price per tank is around SL SHLNGS 20.000 which is the equivalent of around 4 USD. This means, the truck owners bring cheap water from the area and provide water with profit to the areas that do not have access to more affordable water. The price of water per barrel is in average 1.5 USD depending on the season."[72]

72 *Ibid.,161.*



figure 4.8
Filling up a residential water tank. Hargeisa, Somaliland
photograph taken by author

It is relatively common for larger families and businesses such as hotels to require more demand for water tanks to service their establishments. Smaller residential areas mainly have a smaller water tank that is attached to the house, which feeds directly into their piping system. Those that are internally displaced and impoverished rely on filling up their jugs from public sources, such as wells.

Figure 4.8 illustrates the image of a neighborhood boy, showing me how to fill up the water tank within my grandmother's house. He made it look so easy as if he's done it numerous times. I watched his motion with much curiosity, as he climbed the ladder, carrying a long pipe that transported water from a portable supply, such as a *'gaadhi dameer'* (which translates to donkey cars) into the residential tank.

Within the city, water is transported via *'gaadhi dameer*' (figure 4.9). They mainly deliver water to nearby residential areas, though the amount they carry is quite limited, usually transporting only one large tank at a time. They provide potable water to specific households as they do not give service to all citizens. Most of the residential areas within Hargeisa and Somaliland abroad consist of the same layout, where prime water storage tanks are among the central courtyard.



figure 4.9

Method of water distribution using "gaari dhameer" donkey car in Hargeisa, Somaliland
photograph taken by author

4.2 _ Network of Necessity: Methods of Storage and Redistribution

Ground Water & Dug Wells

"There are only two permanent rivers, both in the south. Elsewhere, all rivers are ephemeral, flowing only for hours or days. Groundwater is the sole water resource for most of the country, in rural and urban areas. However, because of low rainfall and widely deep groundwater tables, accessing groundwater is difficult, and expensive, in much of the country."[73]

Due to limited water supplies, Somaliland's inhabitants often depend on groundwater to support their livelihood, such as tending to their livestock and meeting the demands of their daily household needs. The essential sources of groundwater originate from dug wells, boreholes, and seasonal springs. Currently, boreholes serve as the primary and most crucial source of water for Somaliland and Somalia, as they are the most consistent water supply throughout the year during dry seasons. Boreholes can typically go as deep as 90-250m, and there are some that have reached depths of around 400m. Boreholes produce twice the amount of water by volume compared to conventional dug wells.

73 *Ibid.,161.*

Methods of Water Collection:

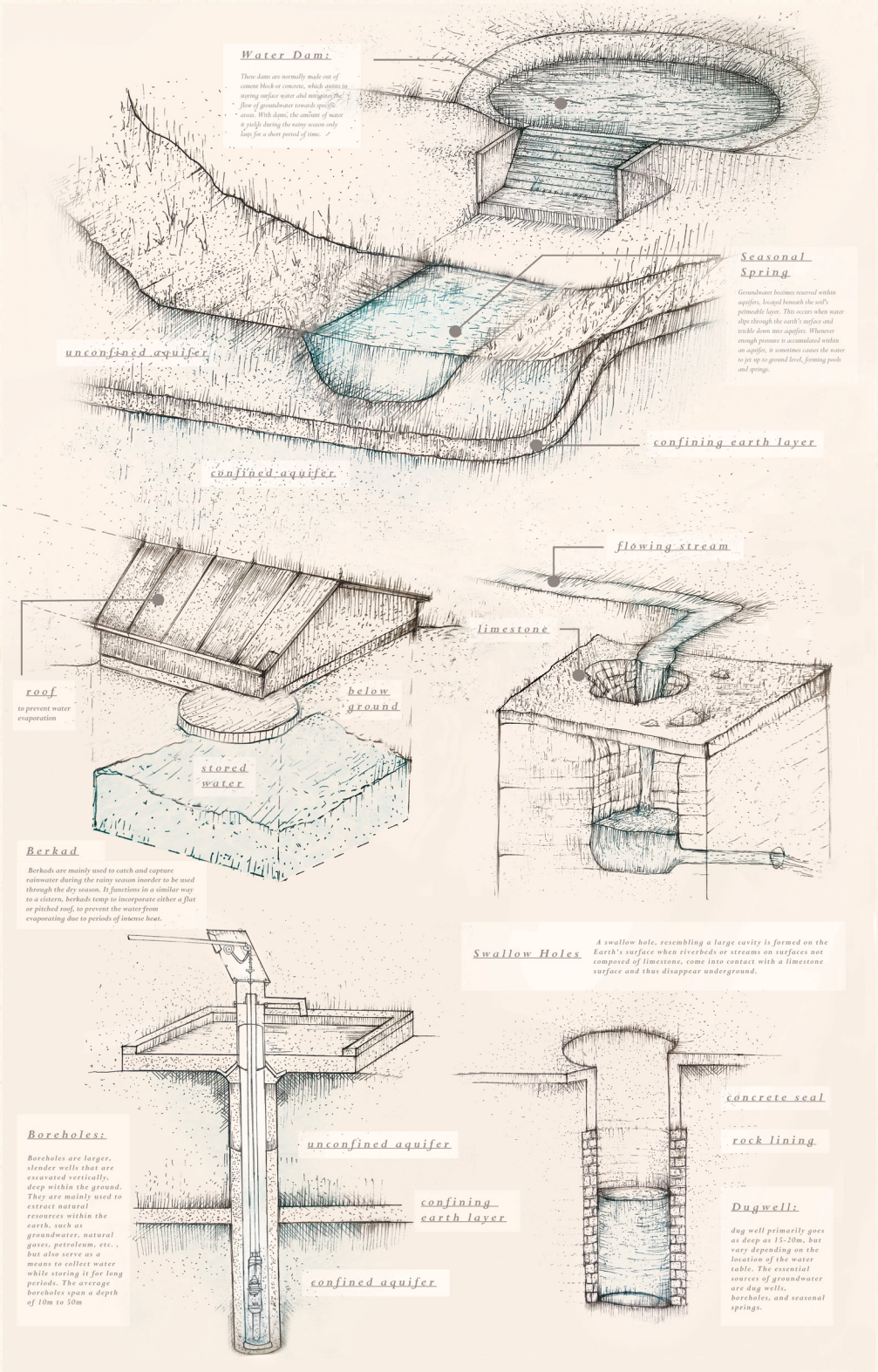


figure 4.10

Methods of Water Collection

Illustrated by author

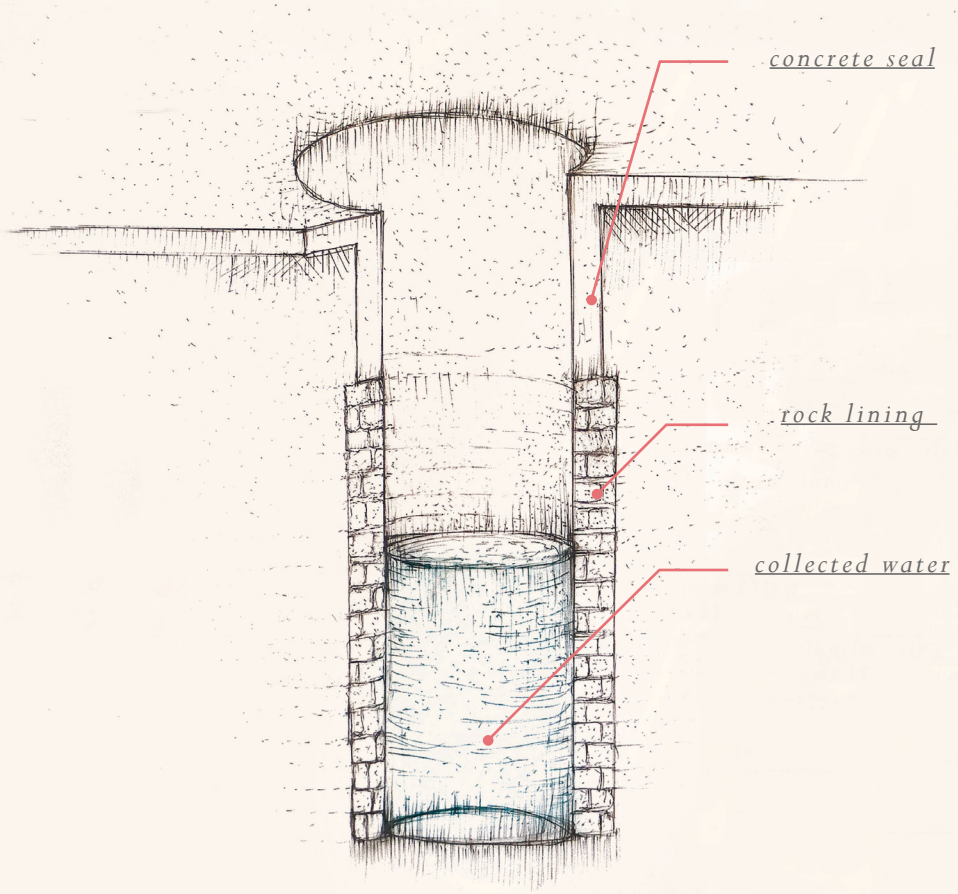
"Most shallow wells yield between 2.5 and 10m3/hr, compared to the yield for most boreholes which ranges between 5 to 20m3/hr."[74]

In contrast, dug wells primarily go as deep as 15-20m, but vary depending on the location of the water table. Despite their importance, throughout the country, most shallow wells are left in a neglected, dilapidated state.

The water quality differs amongst wells from varying locations, primarily due to the state of their aquifer. An aquifer occurs when layers of rock, underneath the earth's surface, serve as a storage vessel or reservoir containing considerable amounts of groundwater. Challenges when extracting groundwater are to ensure that the overall sanitation and potable quality of the water are maintained. To reduce poor conditions of dug wells, specific guidelines must be followed, especially when manually digging the well by hand. The overall goal is to ensure the water is safe for inhabitants to drink and use daily.

74 *Ibid.*, 161.

Dug/Shallow Wells:



Dug wells primarily go as deep as 15-20m, but vary depending on the location of the water table.

figure 4.11
Methods of Water Collection: Dug / Shallow Well
illustrated by author

Seasonal Springs and Swallow Holes

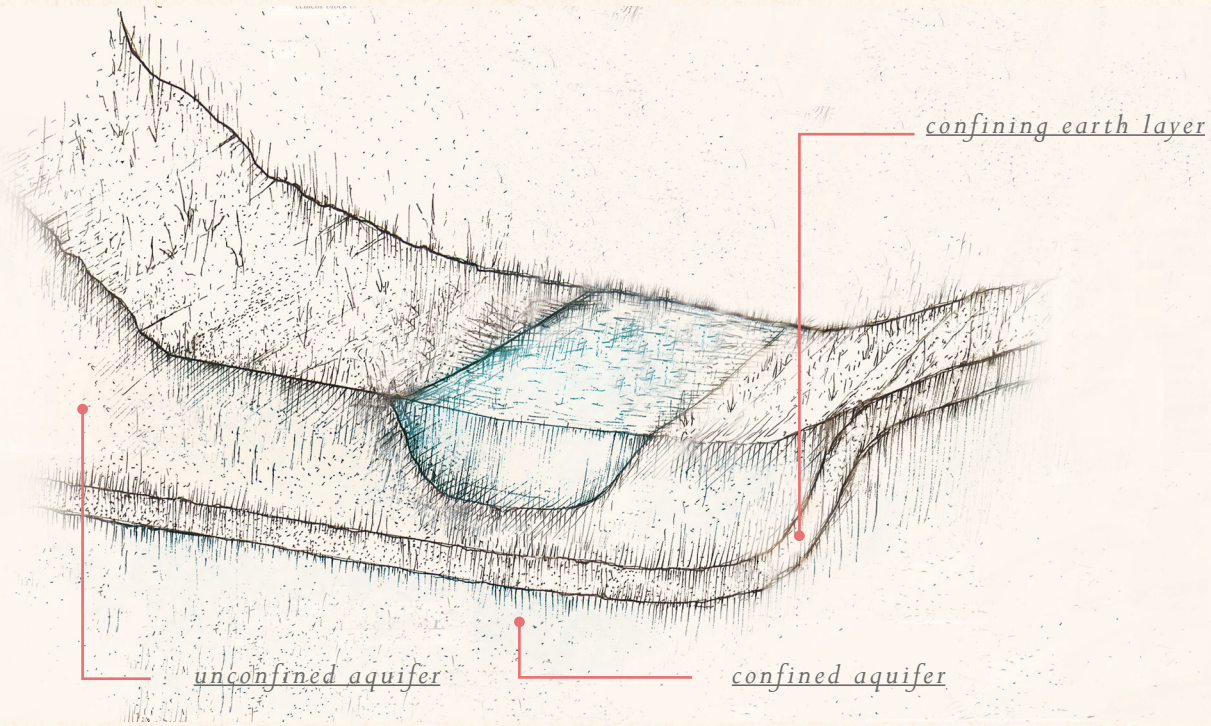
During rainy seasons, groundwater is stored within aquifers, located beneath the soil's permeable layer. Water's innate qualities allow it to slip through the earth's surface and trickle down into aquifers. Whenever enough pressure is accumulated within an aquifer, it can cause the water to jet up to ground level, forming pools and seasonal springs.

A study done within the FAO/SWALIM (Somalia Water and Land Information Management) program showed that there were 287 springs in total throughout Somaliland. These springs tend to be located within unconfined aquifers that serve a vital role within Somaliland's ecosystem. [75]

The volumetric flow of water within springs fluctuates between wet and dry seasons. The change in water supply increases the chance for prime sources to be contaminated overtime, where water-borne diseases and other health-related issues become prominent. There is an amplified urgency and need to protect water sources from damaging external causes, such as runoff water that comes into contact with carcasses of dead animals

75 *Hydrogeology of Somalia."Earthwise. http://earthwise.bgs.ac.uk/index.php/Hydrogeology_of_Somalia.*

Seasonal Spring:



Groundwater becomes reserved within aquifers, located beneath the soil's permeable layer.Waters' innate qualities allow it to slip through the earth's surface and trickle down into aquifers.Whenever enough pressure is accumulated within an aquifer, it sometimes causes the water to jet up to ground level, forming pools and springs.

figure 4.12
Methods of Water Collection: Seasonal Spring
illustrated by author

Mechanisms of water conservation need to be applied throughout Somaliland. First, communities need to be aware of available water sources that are free and open for public use. They also need to ensure that water infrastructure is carried sustainable and safely, especially when extracting water from the ground.

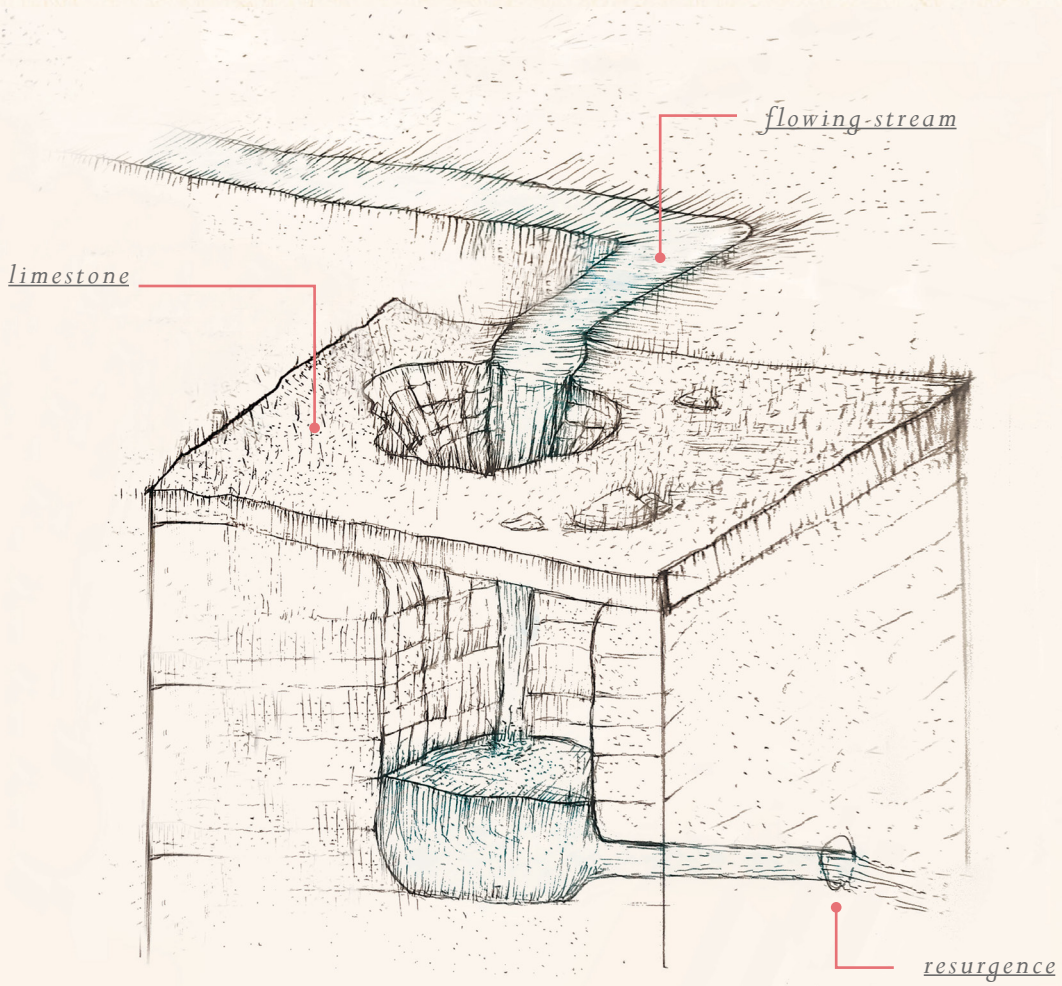
Once the extraction methods are conducted correctly and efficiently, it will create water sources that are manageable for longer durations of time. It will also limit the number of casualties from microbial diseases.

A swallow hole resembles a slight crack along the earth's surface that is prominently seen as one comes closer to it. The individual simply sees a large cavity with no sign of the stream's continual course. There are rare cases where swallow holes can reach a depth of 20 feet.[76]

A unique example of a stream is a swallow hole, in which a large crater or void is carved out from the ground's surface when riverbeds or streams come into direct contact with an area of limestone. The river eventually erodes the earth's limestone, where striated layers of rock are shown over time. The continual flow of the river will thus disappear underground.

76 *Thompson, A. B. 1943. "The Water-Supply of British Somaliland." The Geographical Journal 101 (4): 154-160. doi:10.2307/1789674.*

Swallow Hole:



A swallow hole, resembling a large cavity is formed on the Earth's surface when riverbeds or streams on surfaces not composed of limestone, come into contact with a limestone surface and thus disappear underground.

figure 4.13
Methods of Water Collection: Swallow Hole
illustrated by author

Berkad and Dams

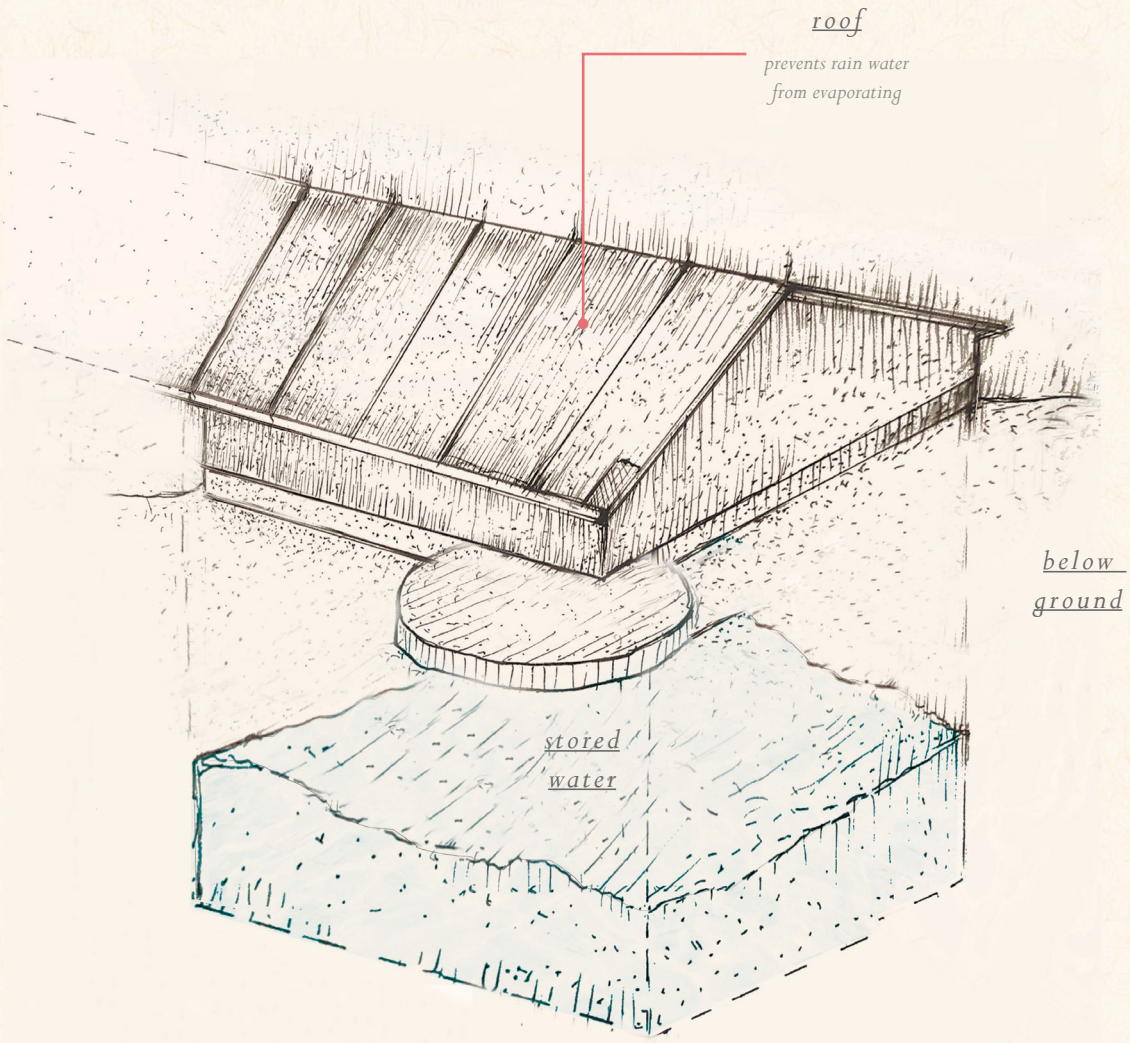
Berkads capture rainwater during rainy seasons for use throughout drier seasons. A berkad functions in a similar way to a cistern. They sometimes incorporate either a flat or pitched roof, to prevent water from evaporating due to periods of intense heat. It was interesting seeing some berkads within Somaliland consist of a sloped metal roof to direct the water into a storage vessel. The addition of the roof can also protect water quality from becoming contaminated.

Berkads are usually built along a sloped area that is prone to runoff water. During the rainy season, the berkads are used as cisterns to catch the excess rain within a matter of hours, storing it for many months. The average berkad can span a length of 20m, with a width of about 10m and can reach a depth of 3.5m.[77]

Berkads have been used since the 1950s within the northern regions of Ethiopia and Somaliland. Both countries possess poor soil conditions and cannot contain water during rainy seasons. These reservoirs are designed in a way to store the water and protect it from spillage onto the land. Therefore most berkads are constructed in a robust manner, where the bottom must be lined with brick and then coated with a concrete finish.

77 *Sardella, Carolina S.E.;Waterloo, Maarten J.; de Haas, Sander; Gijsbertsen, Cedrick."Evaluation of the implementation of the solar still principle on runoff water reservoirs in Budunbuto, Somalia"(PDF).*

Berkad:



These reservoirs are designed in a way to store the water and protect it from spillage onto the land.

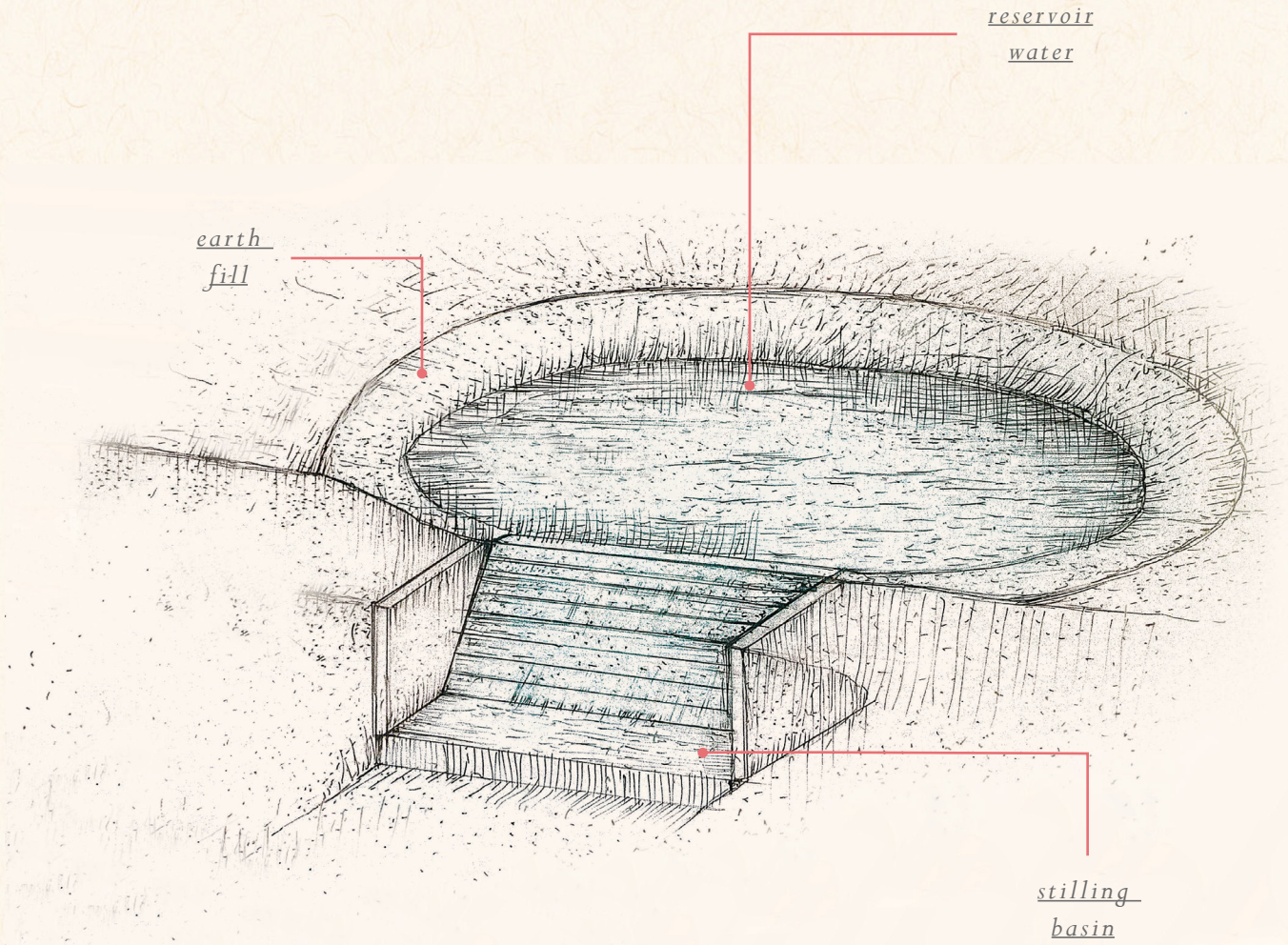
figure 4.14
Methods of Water Collection: Berkad
illustrated by author

"Except in some parts of the Golis Mountain range along the Gulf of Aden, these areas have no permanent springs. They depend mainly on groundwater for domestic water supply, livestock rearing, and small-scale irrigation. The water sources in the plateaus south of the mountains consist mostly of shallow wells, water reservoirs using earth dams in depressions, cemented berkads, and few deep wells (boreholes). Most of the wells are along the banks of dry river (wadis)."[78]

Throughout parts of Somaliland, earth dams around 3m-4m in depth are constructed near dry river beds (wadis), mainly to collect water during the wet season for use in the dry. These dams are normally made out of cement block or concrete, which assists in storing surface water and mitigates the flow of groundwater towards specific areas. With dams, the amount of water it yields during the rainy season only lasts for a short period of time. Therefore these sources are never expected to supply water for a year. The innovative and valuable application of boreholes has allowed for the extension of water supplies to last well throughout the year. The longer duration has proven to be beneficial, especially when other sources have had their supply depleted.

78 *Ibid.,173.*

Water/Earth Dam:



Dams collect water during the wet season to use throughout season

figure 4.15
Methods of Water Collection: Water / Earth Dam
illustrated by author

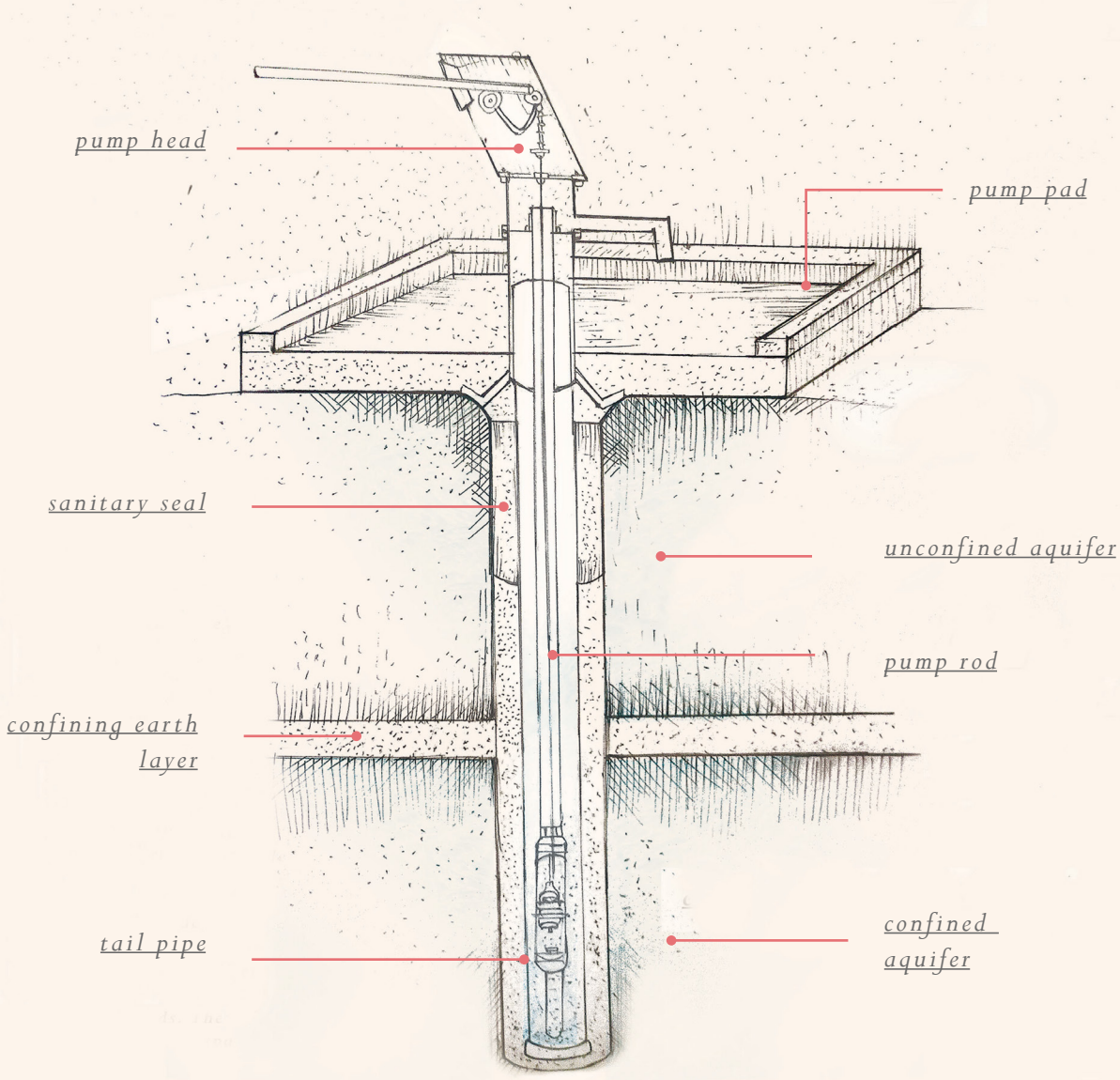
Boreholes

Boreholes are large, slender wells that are excavated vertically, deep within the ground. They are mainly used to extract natural resources within the earth, such as groundwater, natural gases, and petroleum. Similar to the one I saw in Arabsiyo (figure 3.28 & 3.29), where the borehole served as the primary water supply for providing water to the entire farm of about 15 acres. Boreholes also have the ability to store water for long periods. The average borehole depth ranges from around 10m-50m. A decent amount of knowledge of hydrogeology is needed to ensure that the placements of boreholes are in line with the groundwater table.

Once a vertical casing for the borehole is installed, a screen is usually placed within it to prevent debris such as sediment and sand from entering, allowing the borehole to maintain its shape without caving in. Groundwater very much depends on an aquifer's location. Whereas seasonal shifts dictate the depth in groundwater levels. Drilling at locations that do not penetrate groundwater tables results in useless boreholes that become abandoned overtime. Consequently wasting materials and labor efforts, providing little to no impact on surrounding communities."A hydrogeological study covering north and northwestern Somalia indicates that unguided drilling of boreholes puts the country's groundwater in jeopardy."[79] The lack of strict regulations placed upon the extraction of water, as well as limited substitute supplies, diminishes the overall groundwater reservoirs within Somalia/Somaliland.

79 "Detail." Food and Agriculture Organization of the United Nations. http://www.fao.org/resilience/news-events/detail/zh/c/175303/.

Borehole:



Boreholes are large, slender wells that are excavated vertically, deep within the ground

figure 4.16
Methods of Water Collection: Borehole
illustrated by author

Design Scenario: Water Harvesting

The drawing illustrates the importance of capturing primary sources of water, such as rain and groundwater. Storing water is a crucial first step to minimize the effects and severity of the drought. A simple example of this would be placing storage tanks near river beds, hillsides or mountain ranges, where the runoff water could be captured and stored for more extended periods. Collected water can then be redirected for fair use, such as selective irrigation to target depleted and scorched lands. Strategic and planned methods of redirecting water sources result in more successful coverage and widespread growth of vegetation. Therefore it will increase the fertility of degraded areas by creating favorable land conditions. The harvested water can be used as a source to generate energy and electricity alongside the use of solar power. These energy sources ensure that nomads and pastoralists have their continual supply, enough to charge their mobile devices, as it is the primary tool used to transfer money. The mobile phone also consists of some applications that assist with drought and flood warnings.

"Similar mobile-based systems have been tried out in drought-prone areas of Ethiopia and Kenya. A project led by Oxfam in 2013 trained local people to gather data on water levels and report their findings to the humanitarian organization using mobile phones."[80]

Lastly, the grazing of animals has to be controlled to allow plants to propagate. Therefore the need to carefully enclose and tend to herds of animals while limiting their daily hours of grazing is crucial.

80 *Furneaux, Rosa, and Reuters."How Mobile Phones Can Save the Lives of Somali Nomads Facing the Climate Crisis."World Economic Forum. https://www.weforum.org/agenda/2019/11/mobile-phones-somali-nomads-climate-crisis/.*

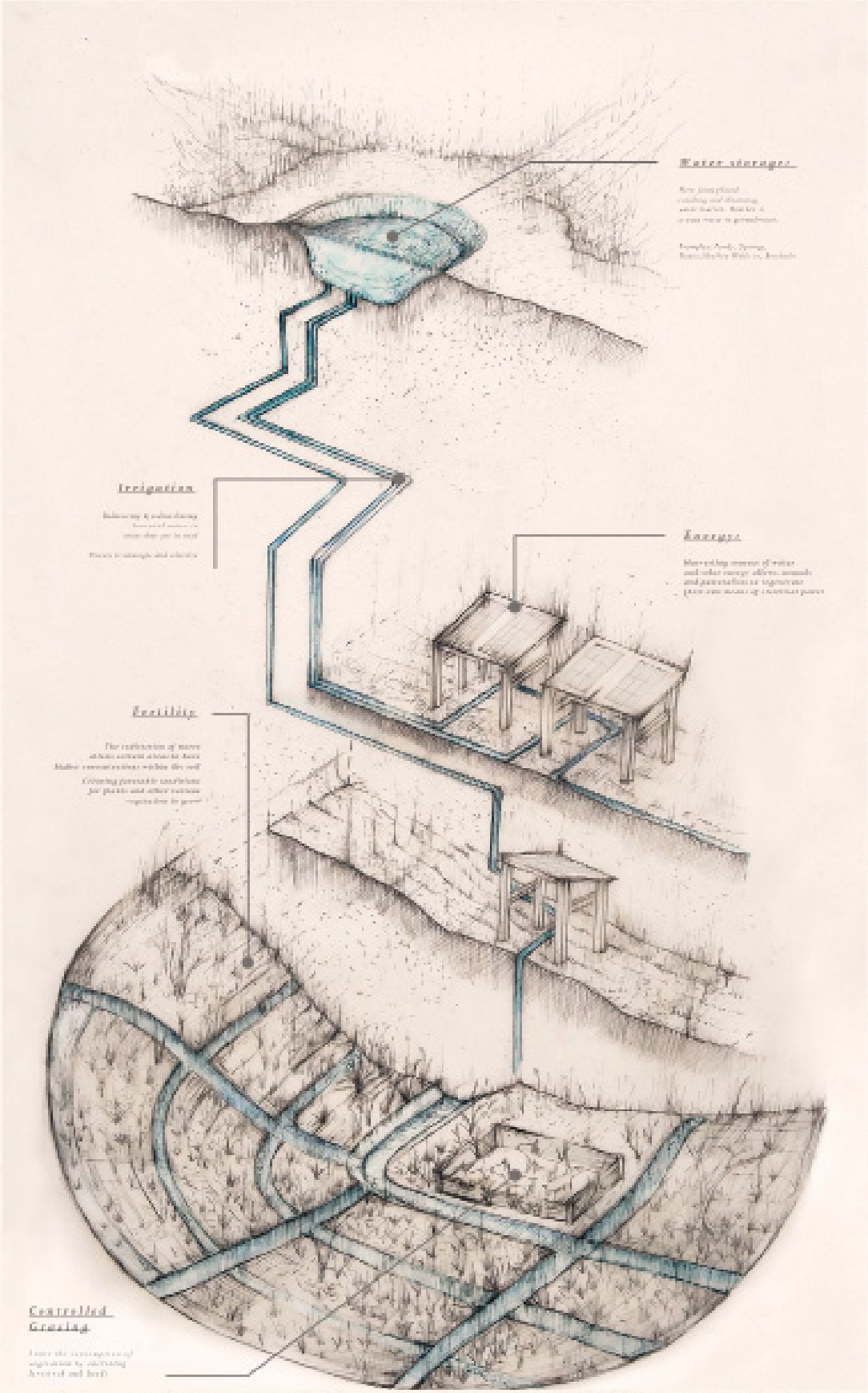
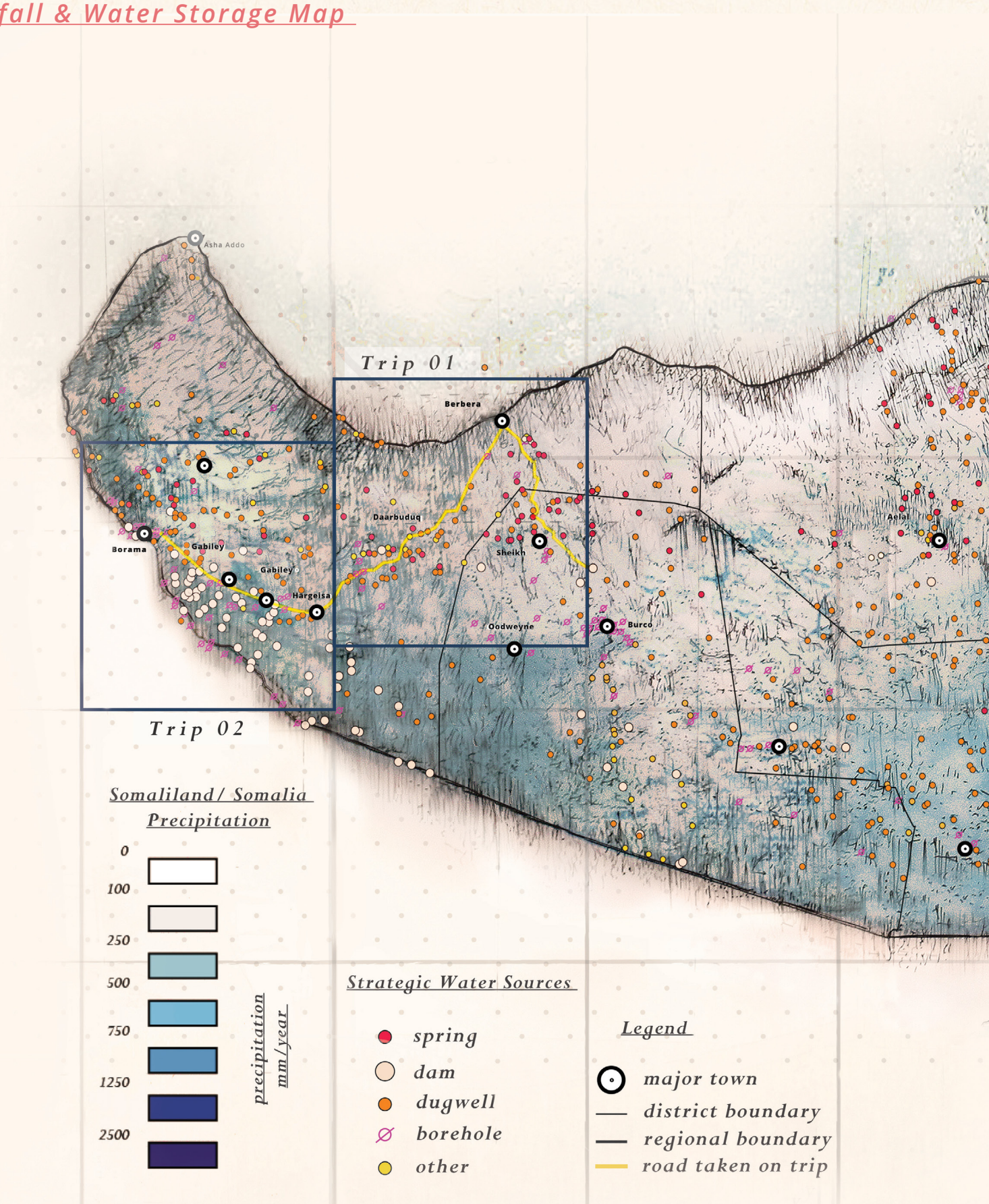


figure 4.17
Water Harvesting & Irrigation
illustrated by author

Rainfall & Water Storage Map



81 "FAO SWALIM: Somalia Water and Land Information Management Live Water-Sources Map Page: FAO SWALIM: Somalia Water and Land Information Management."

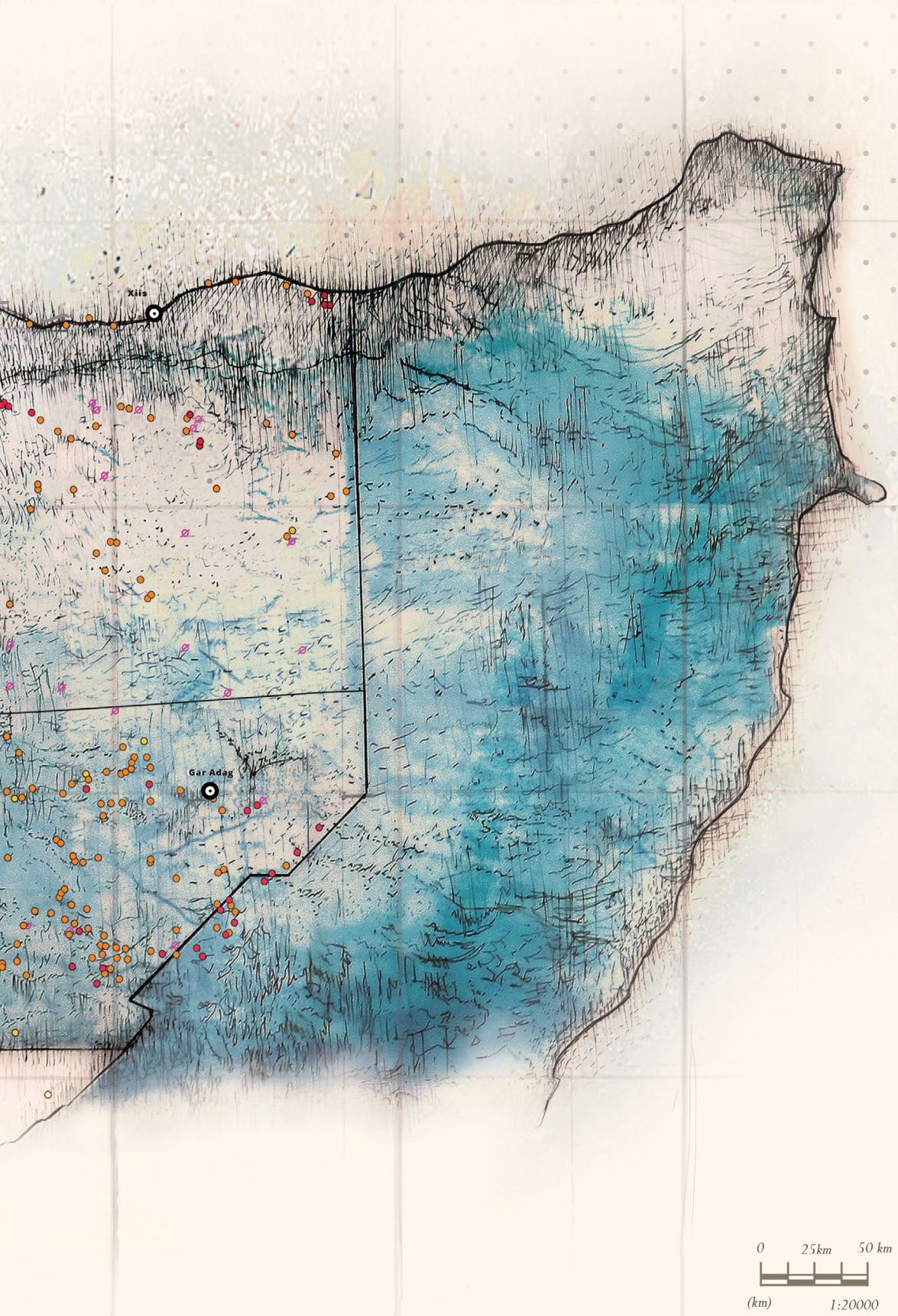


figure 4.18

Information about water storage locations provided by Somalia Water and Land Information Management[81]

illustrated by author

05

Repurposing Infrastructure for Places of Gathering





figure 5.0

Dry river bed. Gabiley, Somaliland

photograph taken by author

5.1 _ The Poetics of Water

Throughout time the Somali language has predominantly been oral, and within recent years after the 1950s, it has been translated to script.[82] The oratory essence of a poem serves as a metaphor for describing all affairs and instances that concern nomadic livelihood and routines. It has proven to be the only successful method of documenting prime historical events that will forever linger within the nomad's memories. Somali poetry constitutes a wide-ranging record of pastoral culture. It begins from the hut and radiates towards the landscape, extending as high as the cosmos, where references and motifs from the Islamic faith present nomads with the idea of longevity despite the obstacles they face.

"Every pastoralist learns, memorizes, and consolidates a formidable collection of materials through these verses in the children's stories and games, fables, myths, astronomy, and astrology. These materials include the names of the different pasture lands, watering places, the different fauna, and flora, the geographical regions frequented by the Somali pastoralist, together with the names of the clans, their oral traditions, and oral history. They are stored in memory and constitute poetic "mental archives" or "poetic, raw materials" essential for the composition and comprehension of any poem of quality."[83]

82 *Additional informationNotes First published in Somalia inWord and Image."The Literary Culture of the Somali People."Taylor & Francis..*

83 *Rirash, Mohammed Abdillahi."Somali Oral Poetry as a Vehicle for Understanding Disequilibrium and Conflicts in a Pastoral Society." Commission on Nomadic People, 1992, 30.*



figure 5.1
Rocky path. Laas Geel, Somaliland
photograph taken by author

Young children are always taught poems during early infancy, in which the subject of many of their poems revolves around habitual routines concerning the hut. The lyrics are a medium to describe everything from the most mundane tasks to the sublime nature of the world.

Other cultures have viewed the well as an essential service space that should be accessible to everyone, people along with their animals. Such spaces were designed in an intriguing manner as the pragmatic need of gathering water also became a public gathering space for the community. The Pozzo di San Patrizio in Orvieto, Italy, is a perfect example of how infrastructure served as a vital role within the community (figure 5.2). The double-helix design allowed for adequate spacing within the walls for individuals to ascend down the well with their mules. The spiral nature seen within the voids of the inner walls is something quite sublime, especially the view upwards as one keeps ascending downwards. Another example is the step-wells seen throughout India. A perfect example is a Chand Baori step-well located Abhaneri, Rajasthan, India (figure 5.3). The multiple series of repetitive steps that ascend down the well illustrate the vital connection between inhabitants and the necessity of water.

Places of concentrated water were prime focal points for social exchanges between pastoralists. In the context of Somaliland, water wells initially belonged to the greater public and were not solely left for individual clans; this was the domain in which pastoral and nomadic families would meet as they obtained their essential watering needs. These wells were also places of congregation, in which people would actively listen and exchange poems."Somali poetry establishes truth by arousing in the people a sensation of shared memory."[84]

84 *"When Orature Becomes Literature:. Somali Oral Poetry and Folktales in Somali Novels." 2012.Comparative Literature Studies 49 (3): 434-462. doi:10.5325/complitstudies.49.3.0434.*



figure 5.2

Pozzo di San Patrizio. Orvieto, Italy. [85]



figure 5.3

Chand Baori step-well located Abhaneri, Rajasthan, India. [86]

85 SAINT PATRICK'WELL - Onetcard, Monuments Orvieto 2015. Onetcard. http://www.onetcard.net/en/saint-patrick-welll/.

86 Doron. 2003. English: Chand Baori (Stepwell), Abhaneri, Rajasthan, India. https://commons.wikimedia.org/wiki/File:ChandBaori.jpg.

Watering holes were an open stage for pastoralists to express their pursuit, struggles, rejoice, love and concerns relating to their strive for life. These poems stimulated the audience intellectually and creatively, inspiring others to come up with smart, entertaining ways in which their poems could leave a lasting mark within their respective societies.

"When a would-be poet feels that his poems are acceptable he will, when he has completed a new composition, go to the watering places where there are the greatest concentration of pastoralists and recite there. His attentive and receptive audience will always memorize at least some of the most important sections, on the spot. They, in their turn, will recite to a new audience and thus the verses travel far and wide. In this respect, the way Somali oral poetry is propagated could be likened to a "nuclear chain reaction."[87]

In essence, the idea of land ownership followed a similar model; land only belonged to a tribe when it was occupied. If the area remained unoccupied, it was then open space for the public to use. There were mutual agreements set up by specific tribes regarding shared ownership of wells. Neighborhoods and communities would alternate shifts, having different watering times throughout the week. In the event when the water table progressively became too low, a collective decision was made where the original diggers of the hole remained, forcing others to search for new water supplies.

87 *Rirash, Mohammed Abdillahi."Somali Oral Poetry as a Vehicle for Understanding Disequilibrium and Conflicts in a Pastoral Society." Commission on Nomadic People, 1992, 30.*



figure 5.4
Camels on route. Outskirts, Hargeisa
photograph taken by author



figure 5.5
Dry river bed, on route to Arabsiyo
photograph taken by author

Due to the limitations of several watering points, it is quite common to see conflicts arise between clans. The scarcity of water pushes pastoralists past their designated boundaries and into new territories belonging to other tribes. These tribes had their own separate governance system along with set rules that adversely needed to be followed. Thus, the water became a dramatic foreground that housed tensions within communities. It was a natural means in which people found either prosperity or despair. Even as water ascended from the skies, it immediately enticed a range of emotions. It was the crucial link that allowed nomads to connect their individual experiences with the pluralities of the worlds, beginning with their own settlements and extending beyond tribes and communities.

"In a country as barren as this, where the population is almost entirely nomadic and where the actual process of survival demands so much effort and tenacity from each tribesman, it seems remarkable that there should be such a large body of written literature, containing such a high degree of dramatic sense, vivid imagination, and wit."[88]

I felt that poems were tools in which nomads could channel their desires to search for the best solutions in any given situation. It illustrates how nomads needed optimism in order to endure such harsh living conditions and make it through to another season.

88 *Laurence, Margaret. 1963. The Prophet's Camel Bell. 1st ed. Toronto: McClelland and Stewart.*



figure 5.6
River Bed, on route. Hargeisa, Somaliland
photogtaph taken by author



figure 5.7
Rock formation. Gabiley, Somaliland
photogtaph taken by author

5.2 _ Site & Material Explorations

The town of Gabiley is located 54km on the west side of Hargeisa. It is a place recognized for its vast agricultural productions in comparison to other districts along the northeast. The development of new technology has facilitated the application of many farming practices, allowing the district of Gabiley to prosperously increase its yield each year. The high demand for various crops and foods has resulted in a growing number of food insecurities. Foods such as corn, wheat, sorghum, beans, tomatoes, potatoes, papaya, and watermelon are high in demand and do not meet the supply available within the region.

The densely populated district has around half a million inhabitants. The inhabitants in the village have settled in the area for quite some time; where many individuals are able to date their tribal lineage back to hundreds of years, reciting each familial name by heart.

"The majority of the people in the district have been settled there for the last 300 years. There are more major and minor towns in Gabiley district than anywhere else in Somaliland."[89]

89 *"Gabiley Travel Guide." Gabiley travel guide. https://web.archive.org/web/20070930153609/http://www.world66.com/africa/somaliland/gabiley.*

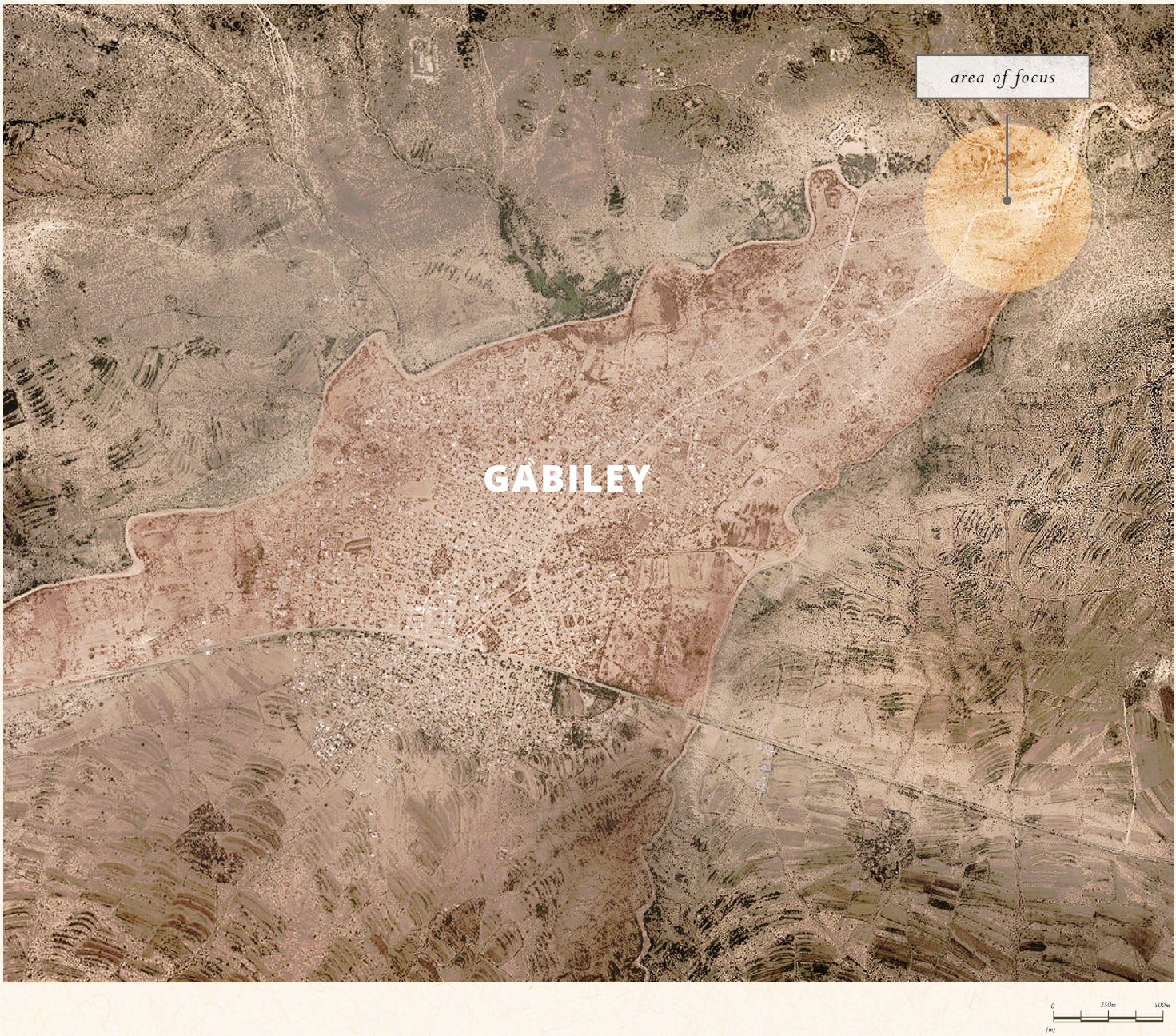


figure 5.8
Map of the town, Gabiley.
diagram by author.
Satellite image from Bing Maps. 2020

The district doesn't experience a lot of rainfall throughout the year, the typical annual amount of rain is approximately 489mm. During the predominant heavy rain season of *'Gu'* the precipitation reaches its maximum, around 91mm in August. Whereas during the dry season of *'Hagaa'*, the rain reaches a maximum of 2mm during December. The variation in the amount of rainfall between the wettest and parched months is 89mm. The average temperature throughout Gabiley is 21.4°C, where the warmest months occur in June, averaging around 24.5°C. In retrospect, January is the coldest month where the temperature an average of 17.6°C. The temperature difference between June and January, which are the coldest and hottest months, is 6.9°C.

The site for the design proposal is located 1.5-2 km northeast from Gabiley's town center. The area consists of a cluster of dug wells that are still active and used by the public. The location of the seven wells is dispersed at varying lengths ranging from 5-20m (figure 5.22 - 5.28). The overall site is located on the verge between two wadis (seasonal river beds), one called *'Laag Barako'* and the other called *'Gofka'*. Both rivers only flow heavily during the longer rainy season. There is also a nearby high school called *'Qalax Secondary School'*. The school used to serve as a boarding school for both elementary and secondary students during the 1970s, but now its solely a school for secondary students (figure 5.12). Near the school is also a tan plastered mosque called *'Qalax Mosque'*, which is primarily used by students (figure 5.10 & 5.11). There is a bridge adjacent to the site that crosses 'Laag Barako' (figure 5.14). There is also another bridge located northeast of the proposed site intervention, situated at the point where the two rivers merge.

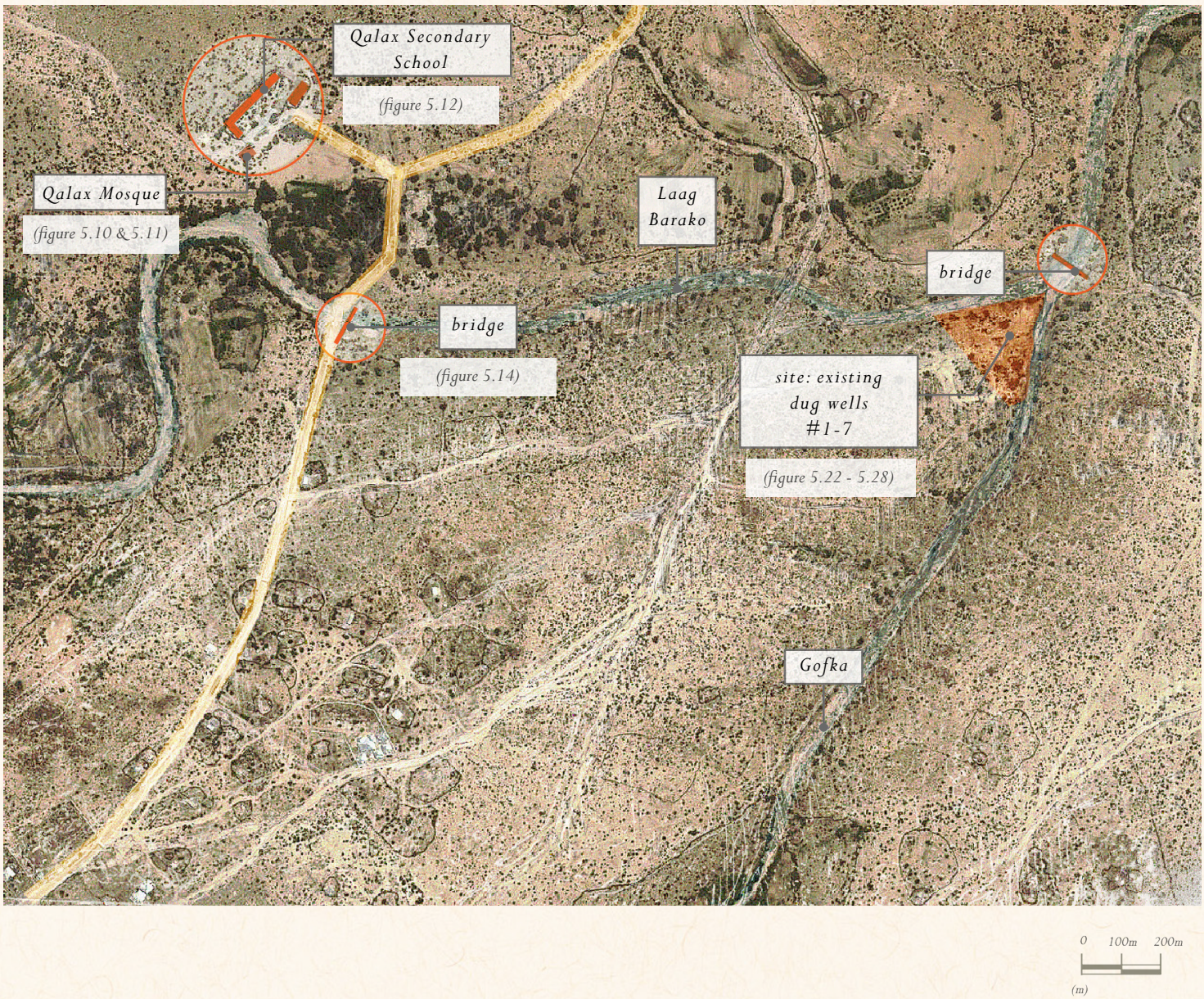


figure 5.9

Map of the proposed site, located in Gabiley, Somaliland.

diagram by author.

Satellite image from Bing Maps. 2020



figure 5.10
Qalax Mosque. Gabiley, Somaliland
photograph taken by author



figure 5.11
Qalax Mosque. Gabiley, Somaliland
photograph taken by author



figure 5.12
Qalax Secondary School. Gabiley, Somaliland
photograph taken by author



figure 5.13

'Laag Barako' during dry season of 'Hagaa'. Gabiley, Somaliland

photograph taken by author



figure 5.14

Bridge over 'Laag Barako'. Gabiley, Somaliland

photograph taken by author

Geology of Gabiley

Within the hot, arid, and humid environment of Gabiley, the standard regional geology is Nubian sandstone. Throughout the town are scattered reddish-brown rocks amongst amassed beds that are spread along the earth. The rock resembles fine, coarse-grained sandstone quartz, with hints of white, that ripple in a radial formation.

"The Nubian Sandstone unconformably overlies on the Basement Complex along the plateau escarpment or Jurassic rocks, and from Hargeysa to the north and the east is conformably underlain by the Auradu limestone."[90]

The thickness of the sandstone varies throughout the region. It increases in density towards the south and southeast portion of the Gabiley district. In areas such as Wajaale, the thickness of sandstone reaches around 100m. Whereas, in another town such as Baligubadle, the depth surpasses 500m.

The soil is classified as calcareous, meaning that it is primarily composed of calcium carbonate and has a chalky appearance due to its lime content. The soil type within the region consists of both vertisols and regosols (figure 5.15). Vertisols are soils that typically shrink dramatically when the area is dry and swell when the area becomes wet or receives rain. Regosols, on the other hand, are mainly in desert areas and are defined by their flat, fine to medium-grained texture. They are found primarily under natural vegetation and dried fields.

90 *FAO-SWALIM (2012). Hydrogeological Survey and Assessment of Seletced Areas in Somaliland and Puntland. Technical Report No.W-20, FAO-SWALIM (GCP/SOM/049/EC) Project, Nairobi, Kenya.*

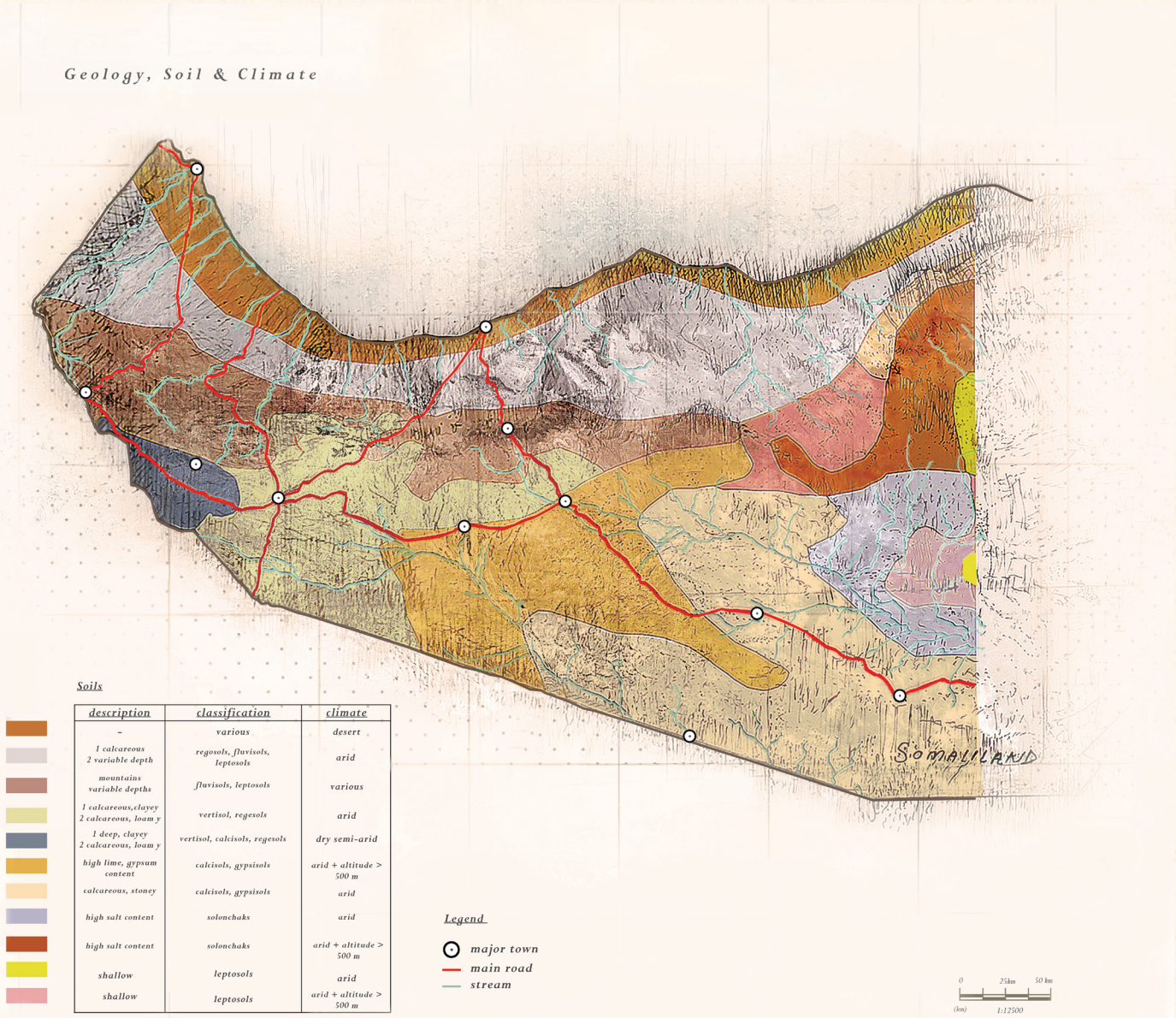


figure 5.15

Map illustrating geology, soil & climate conditions within Somaliland

drawn by author

All the dug wells located on the proposed site were either dug by hand or drilled via equipment to penetrate the rock's surface. The textures found on rock faces on site are quite beautiful, as they display the roughness of the natural landscape, along with striated patterns from the earth below. Most wells vary in depth ranging from 10m-15m. The collected water is usually extracted mechanically with assistance from water pumps and trucks (figure 5.23). These wells are also popular spots for pastoralists and nomadic venturers to travel with their herds. Most wells have designated drinking areas for their animals.

When my father was young he would tend his goats and sheep at a watering hole that was located 100 meters west from the site. He would explain to me how, as a child, he would allocate specific watering times to certain animals so that they wouldn't finish the entire supply. My father also talked about how they would manually transport water by merely passing consecutive buckets between men as they stood on steps that led to the bottom of these wells. Most wells consisted of carved out steps along the rock face that facilitated means in which people would receive water (figure 5.28). The recollected memories shared by my father reinforced the idea that these wells should not merely be viewed as infrastructure, but rather can become communal spaces that enable people from the community to narrate and relive their experiences.

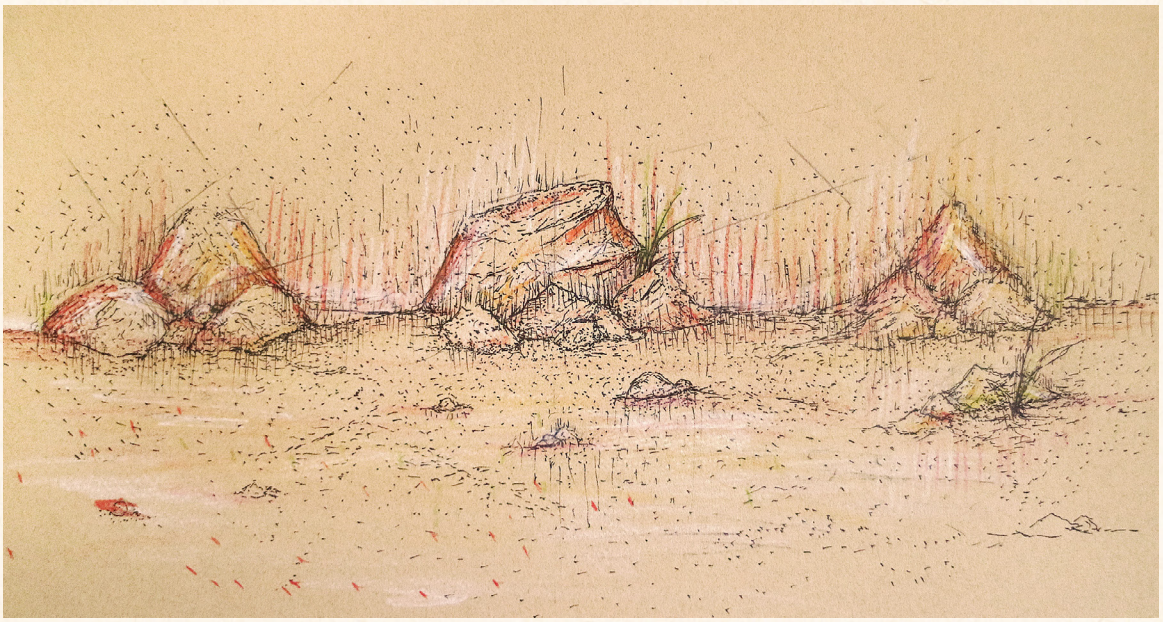


figure 5.16
Sketch: rock cluster found in Gabiley, Somaliland
illustrated by author

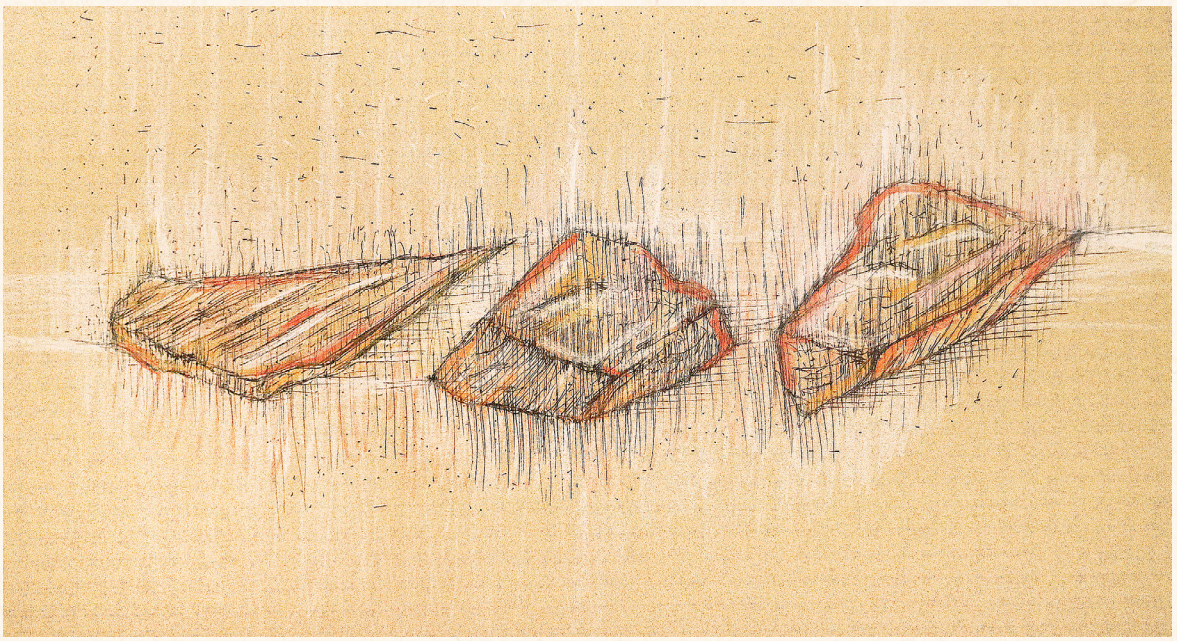


figure 5.17
Sketch: directionality and striations found on rock texture
illustrated by author



figure 5.18

Rock formation, "Dagax Arab" Gabiley, Somaliland

photograph taken by author



figure 5.19
Rock formation, "Dagax Arab" Gabiley, Somaliland
photograph taken by author





figure 5.20
Rock formation, "Dagax Arab" Gabiley, Somaliland
photograph taken by author

5.3 _ Proposed Site Intervention

The site is located where two seasonal rivers, Laag Barako and Gofka merge. The existing wells are located a few meters apart (figure 5.22). Each well consists of a diameter that ranges between 2-5m, with fragments of rock scattered around its perimeter, as moss and other vegetation grow through striated layers and cracks.

I've decided to design the pavilion intervention on site #7, solely based on natural characteristics found on site. I saw alluring beauty within displaced stones and textures found on the rock face surrounding the well's hollow cavity. From the provided photos, I could already picture a communal space at the location, as the natural landscape seemed to have supported a known architectural language, such as seating being formed on rock edges. I felt that each dug well was unique, where I believed I could incorporate some aspects of each into the final design.

It was beautiful seeing how plants would grow through cracks on rough surfaces, portraying its versatility and resilience. I was inspired by the examples shown on nearby dug wells, such as the smooth curved barrier wall built on well #2 (figure 5.24) and the boulders and fragmented rock on the site of well #4 (figure 5.26). I find myself recalling the place of Dagax Arab (figure 5.18-5.20), where people would congregate and sit around red, large, earth-toned boulders, just to enjoy the scenery. The varying size of rocks allowed people to extend their view into the horizon, catching a glimpse of the setting sun.

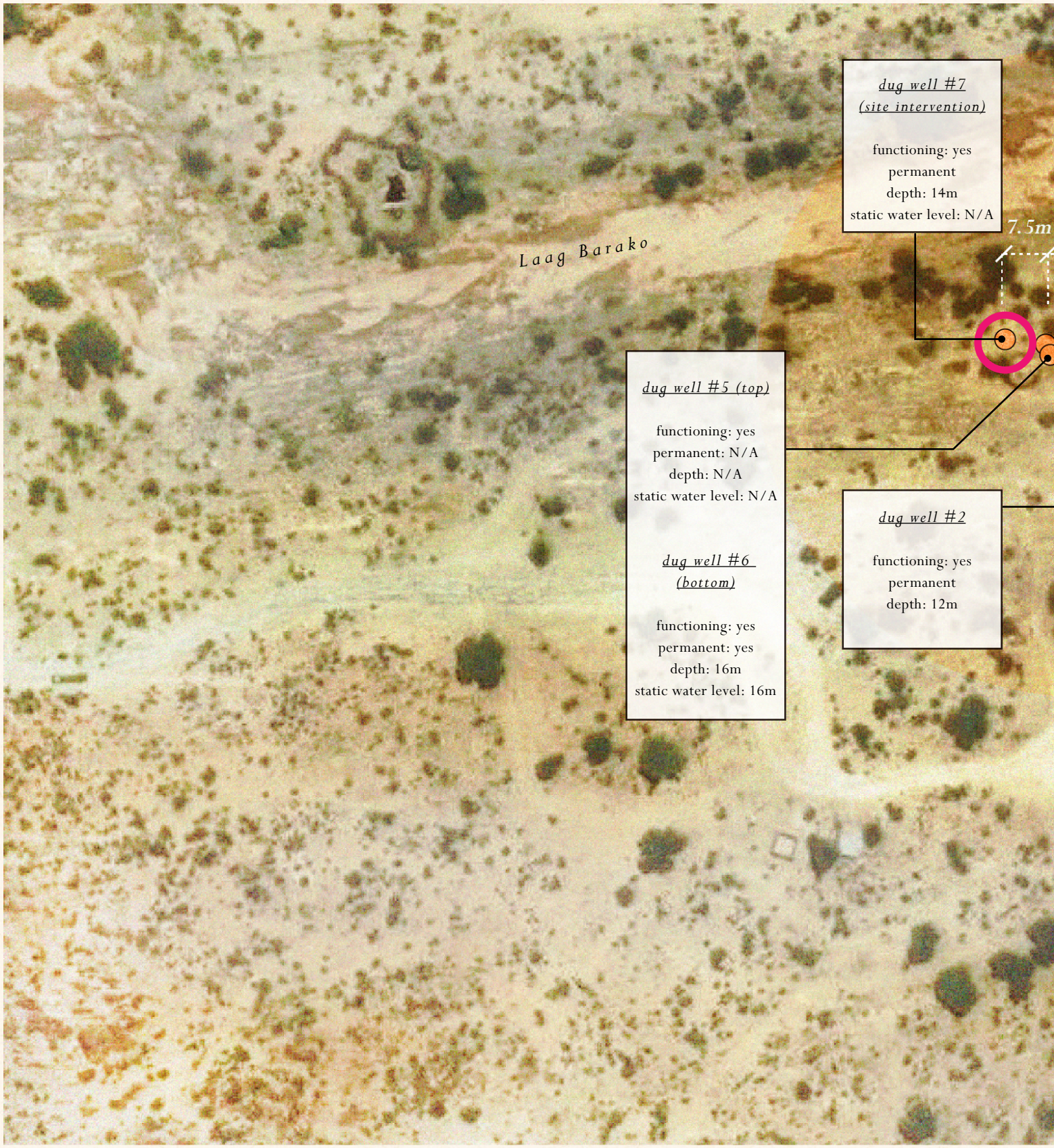


figure 5.21

Image of Well #7. The area for the proposed intervention

photo taken by FAO SWALIM: Somalia Water and Land Information Management[91]

91 *"FAO SWALIM: Somalia Water and Land Information ManagementLive Water-Sources Map Page: FAO SWALIM: Somalia Water and Land Information Management."*


dug well #7
(site intervention)
functioning: yes
permanent
depth: 14m
static water level: N/A
7.5m
Laag Barako
dug well #5 (top)
functioning: yes
permanent: N/A
depth: N/A
static water level: N/A
dug well #6
(bottom)
functioning: yes
permanent: yes
depth: 16m
static water level: 16m
dug well #2
functioning: yes
permanent
depth: 12m

92 Ibid.,212.

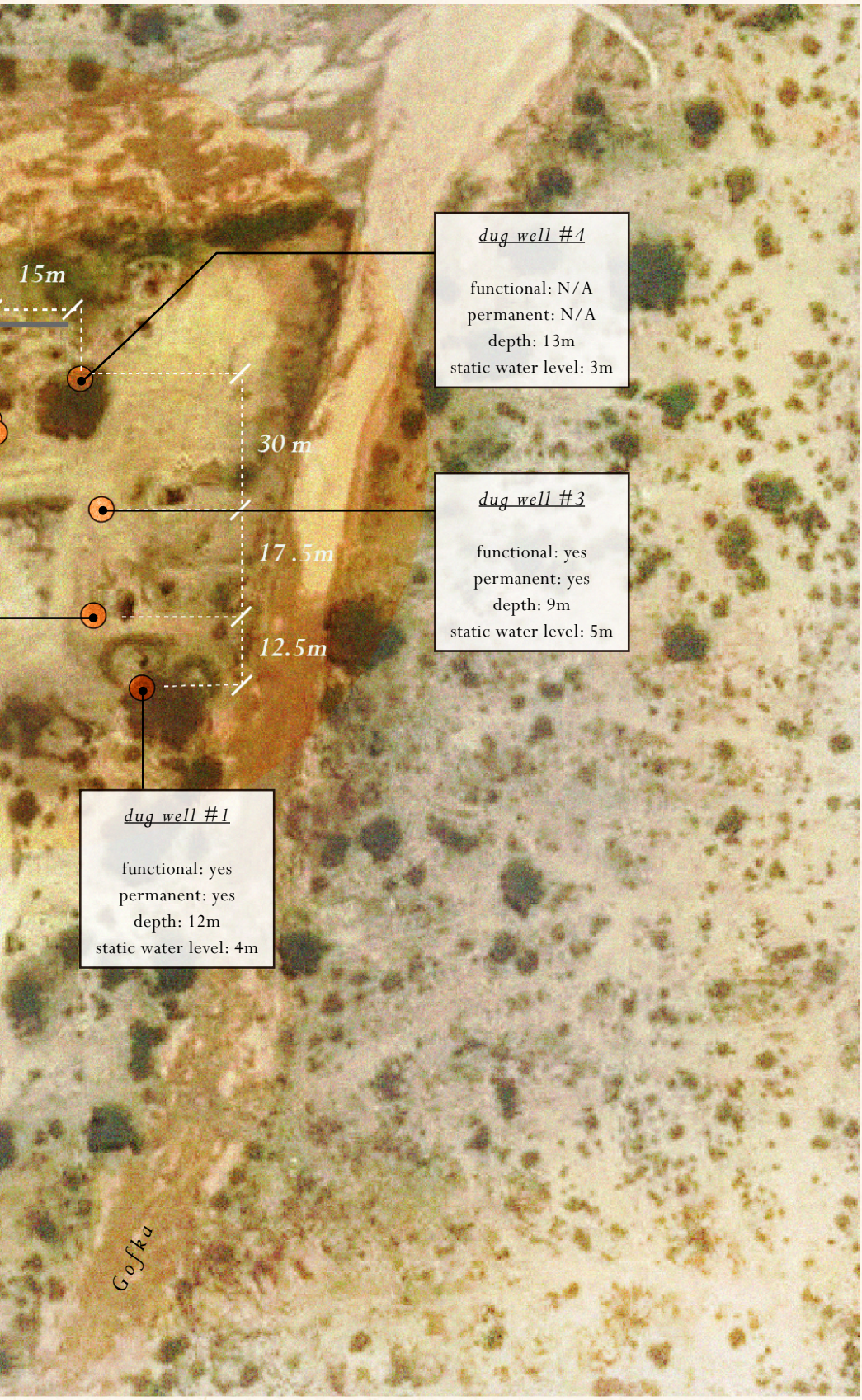


figure 5.22
Information about dug wells and statics of occupancy and use provided by Somalia Water and Land Information Management[92]
diagram by author



figure 5.23

Dug well #1.[93]



figure 5.24

Dug well #2.[94]

93-96 *Ibid.,230.*



figure 5.25

Dug well #3, water pump resting on the trunk and branches of trees.[95]



figure 5.26

Dug well #4.[96]



figure 5.27

Dug well #5&6.[97]



figure 5.28

Close-up of dug well #5. [98]

97-98 *Ibid.,230.*



figure 5.29
Dug well #7.
Photograph taken by Mahamoud Mahamed

5.4 _ Design:
Seeking Sustenance & Communal Congregation

The design intervention creates a radial floor plan that spirals downward, around the central well. It aims to tie itself into the landscape with minimal protrusions above the ground. The winding staircase along the south side makes way onto the communal gathering space where individuals can obtain water. This space also allows for people to gather and tell their stories. The design juxtaposes smooth surfaces with the rough natural textures found within the landscape. The intervention seeks to connect everyday tasks such as the importance of obtaining sustenance with the necessity of leisure.

The pavilion uses locally sourced materials, such as wood fibers and grass to weave together the thatched roofing. It aims to feature the textures found on the existing rock face, which is primarily used as the surface for interior walls, such as the communal space below ground level. Concrete is used along the exterior wall face and is finished with a smooth plastered surface.

Large boulders along the perimeter of the design serve as sculptural pieces, but they can also be used as seating. Lastly, the watering area for animals is located behind benched seating that looks down onto the public well. The circular configuration allows natural conditions to tie in well with the constructed elements. Overall it's the act of storytelling, and imprinting our narratives within the land, that becomes the driving element behind the design.

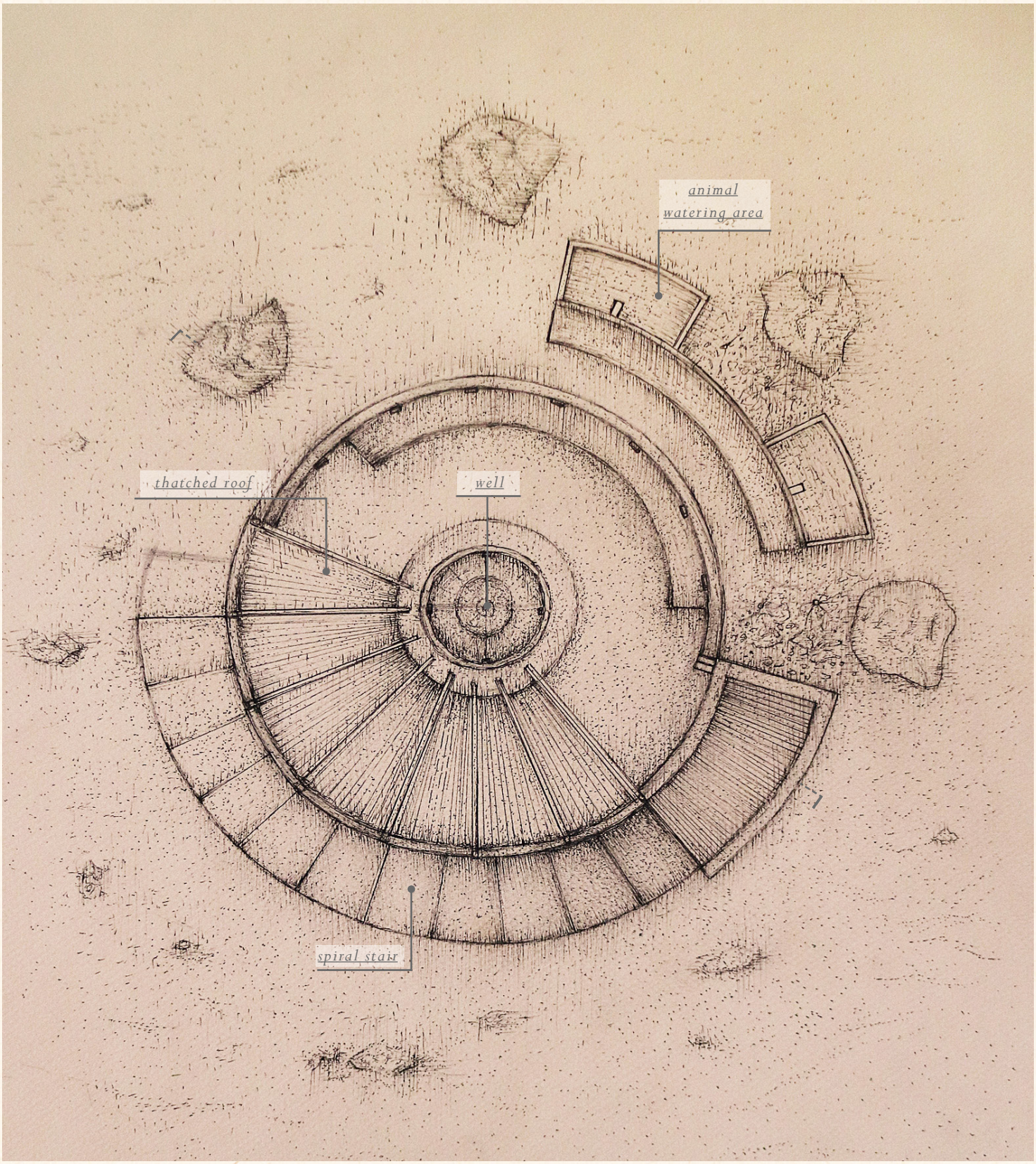


figure 5.30
Design intervention: plan
drawn by author

Assemblage

To gather around
Recounting obstacles,
Narrating struggles,
Professing love and
spreading empathy



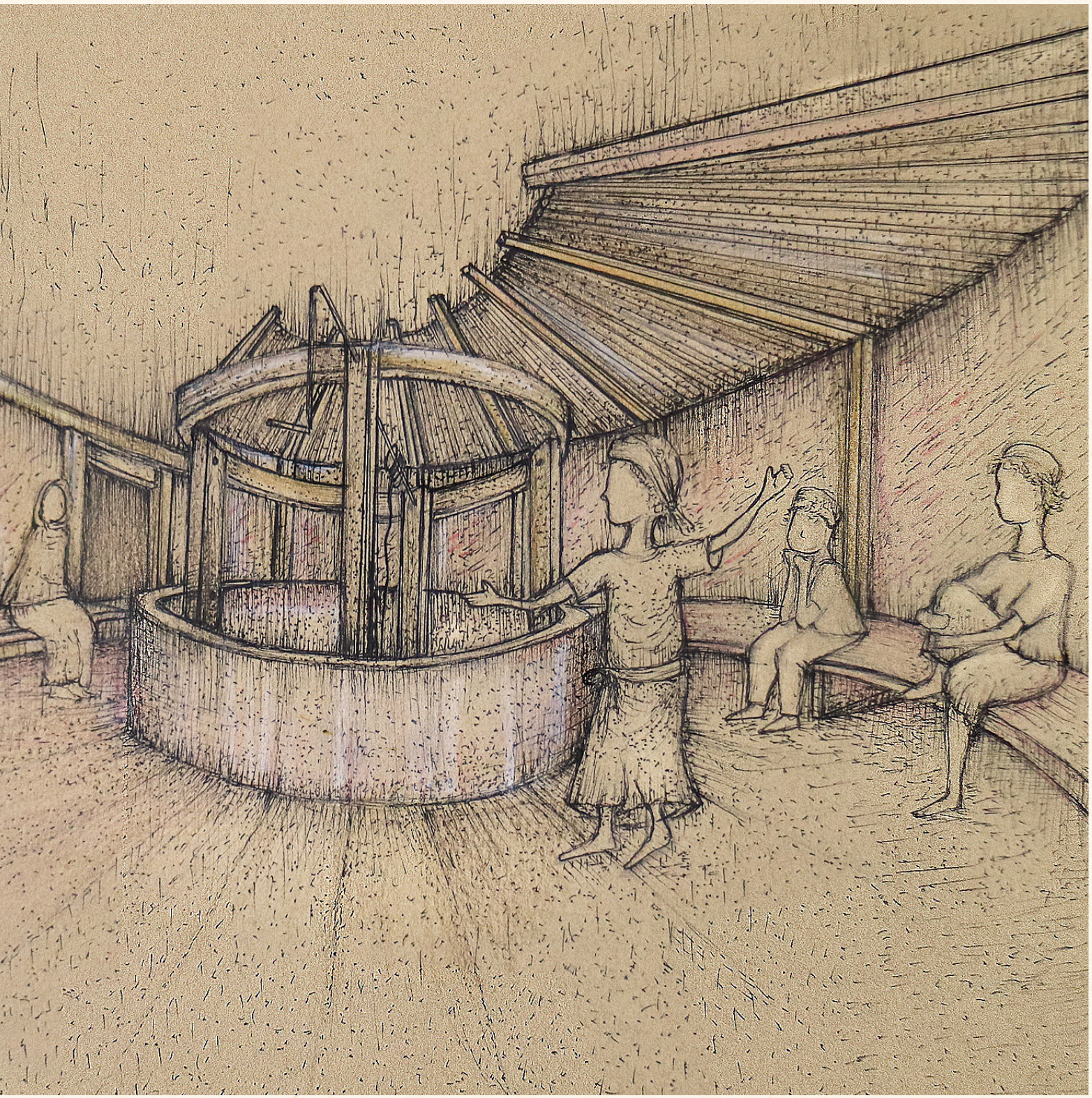


figure 5.31

Design intervention: interior space

drawn by author

Assimilate

Measuring our desires
On divergent paths
Its bounty stored above
And cherished below



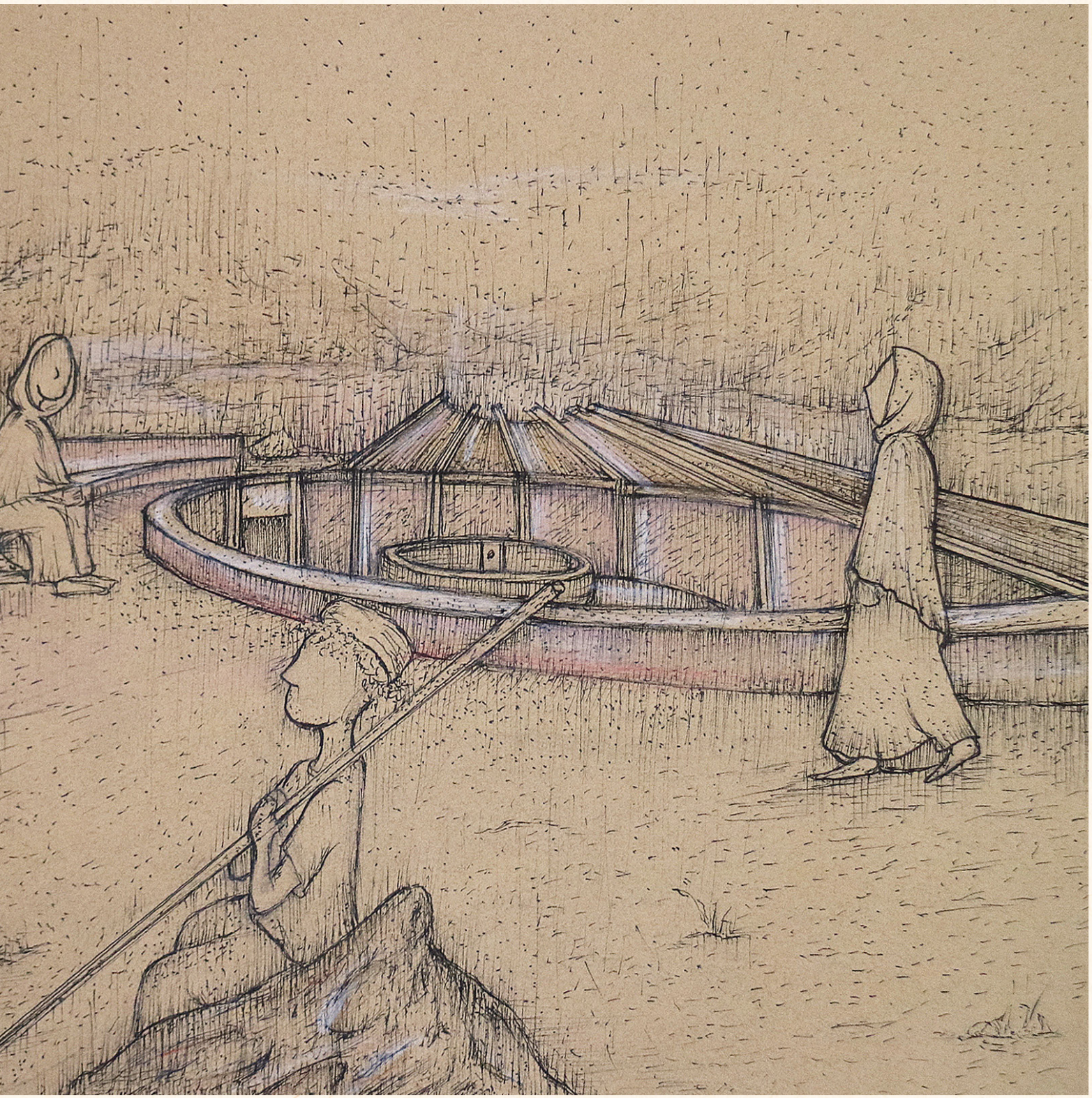


figure 5.32

Design intervention: exterior landscape
drawn by author

Buried

Tucked away
Beneath the surface
Is a place of refuge

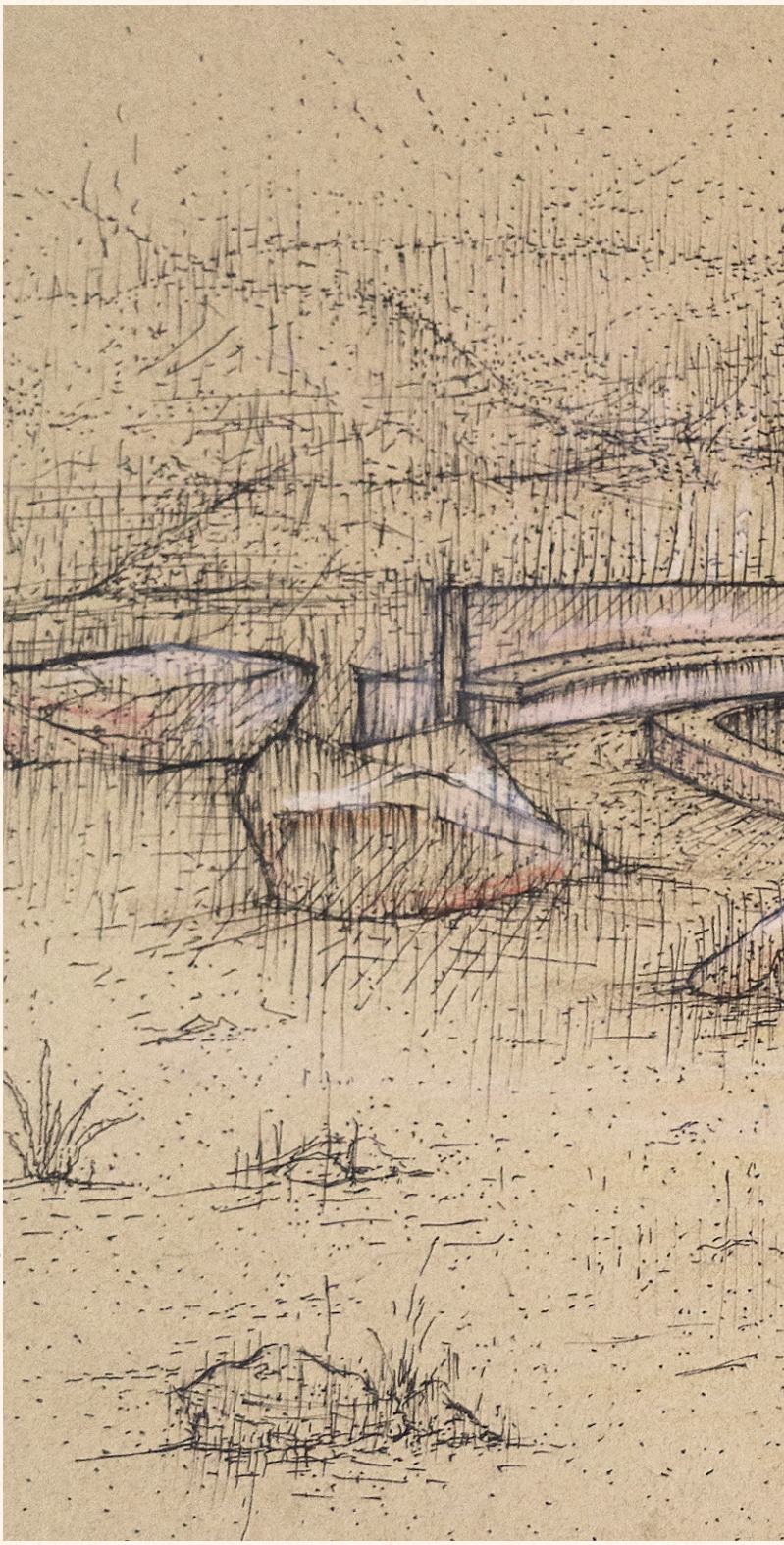




figure 5.33

Design intervention: entrance
drawn by author

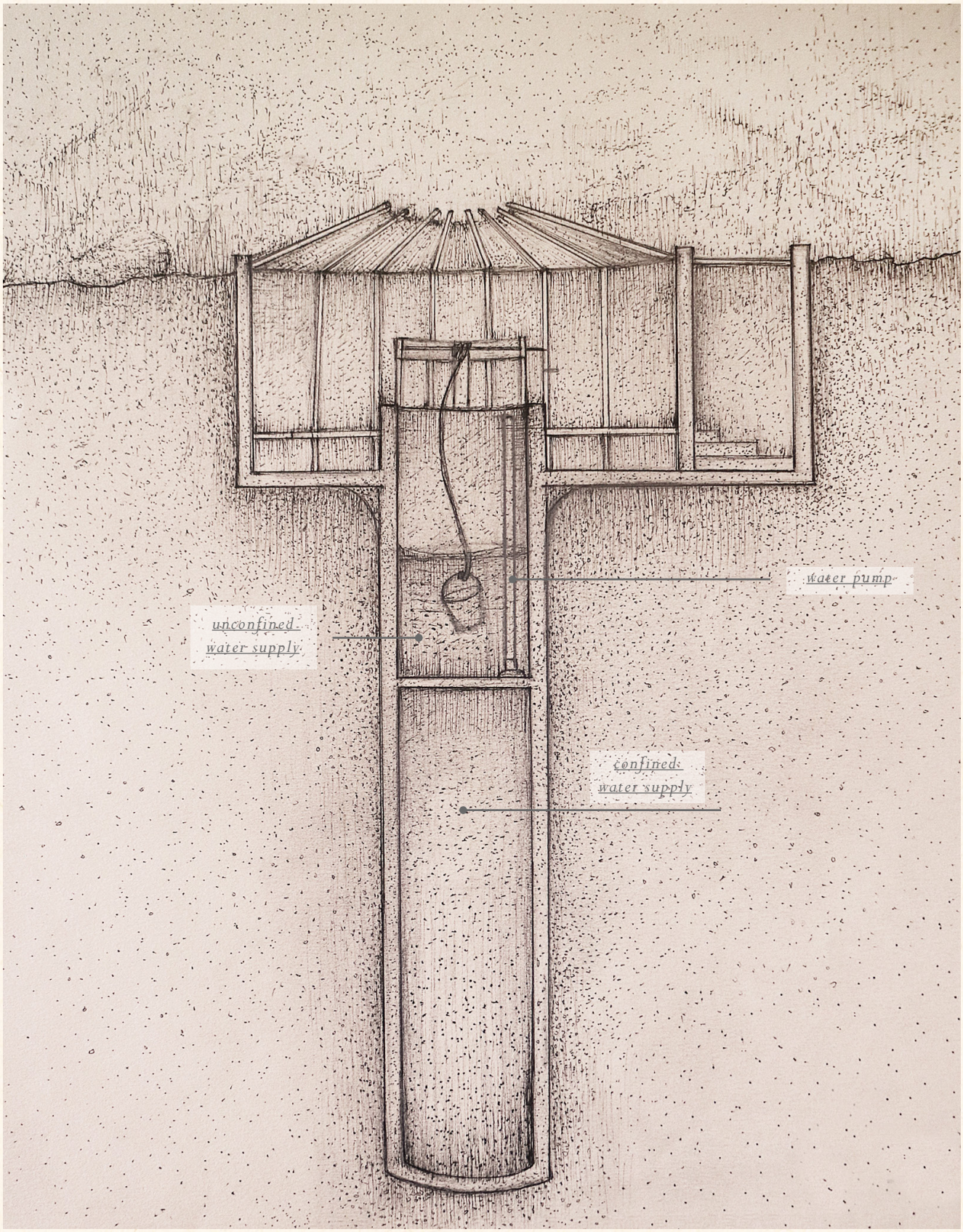


figure 5.34

Design intervention: section

drawn by author

2m 1m 0

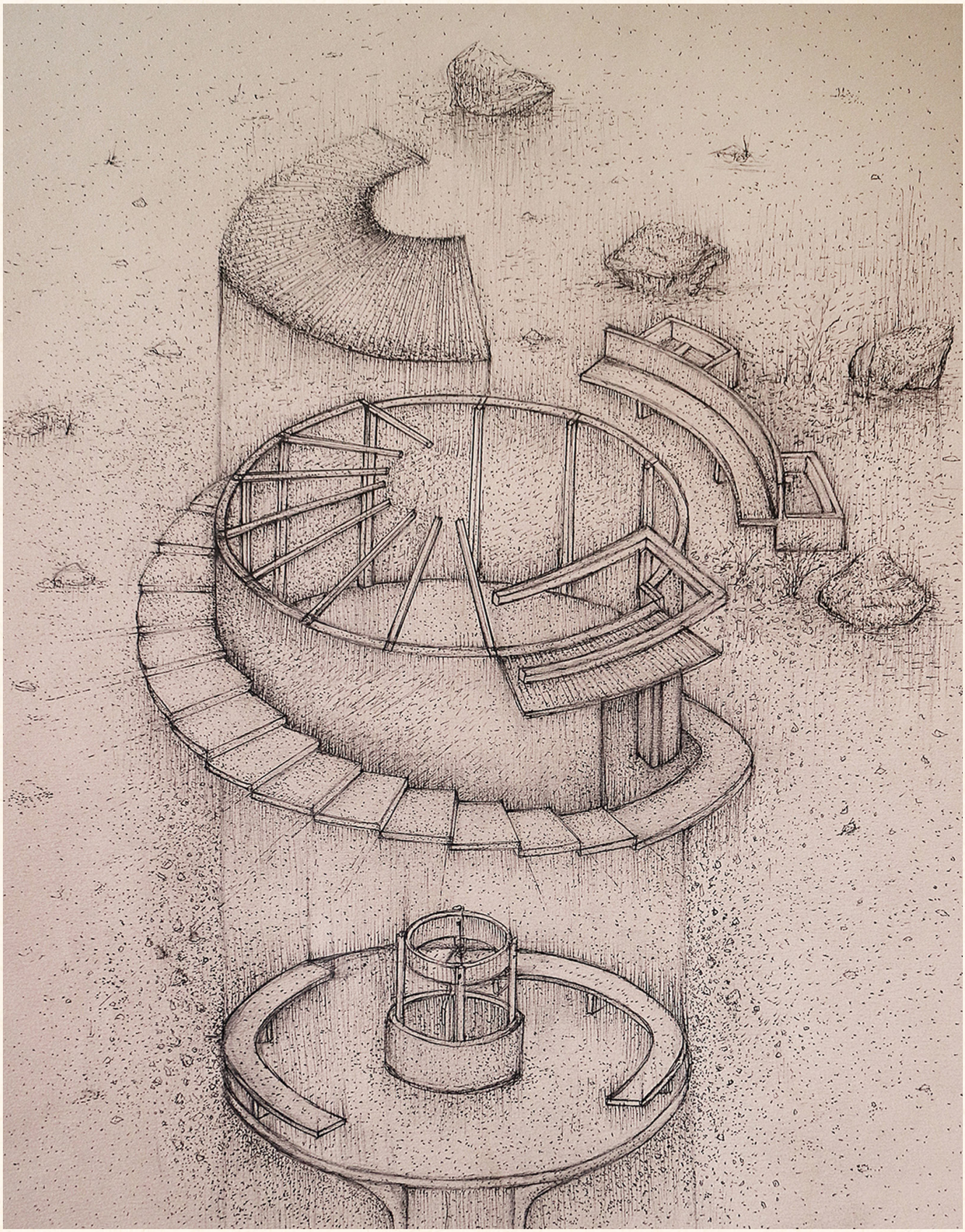


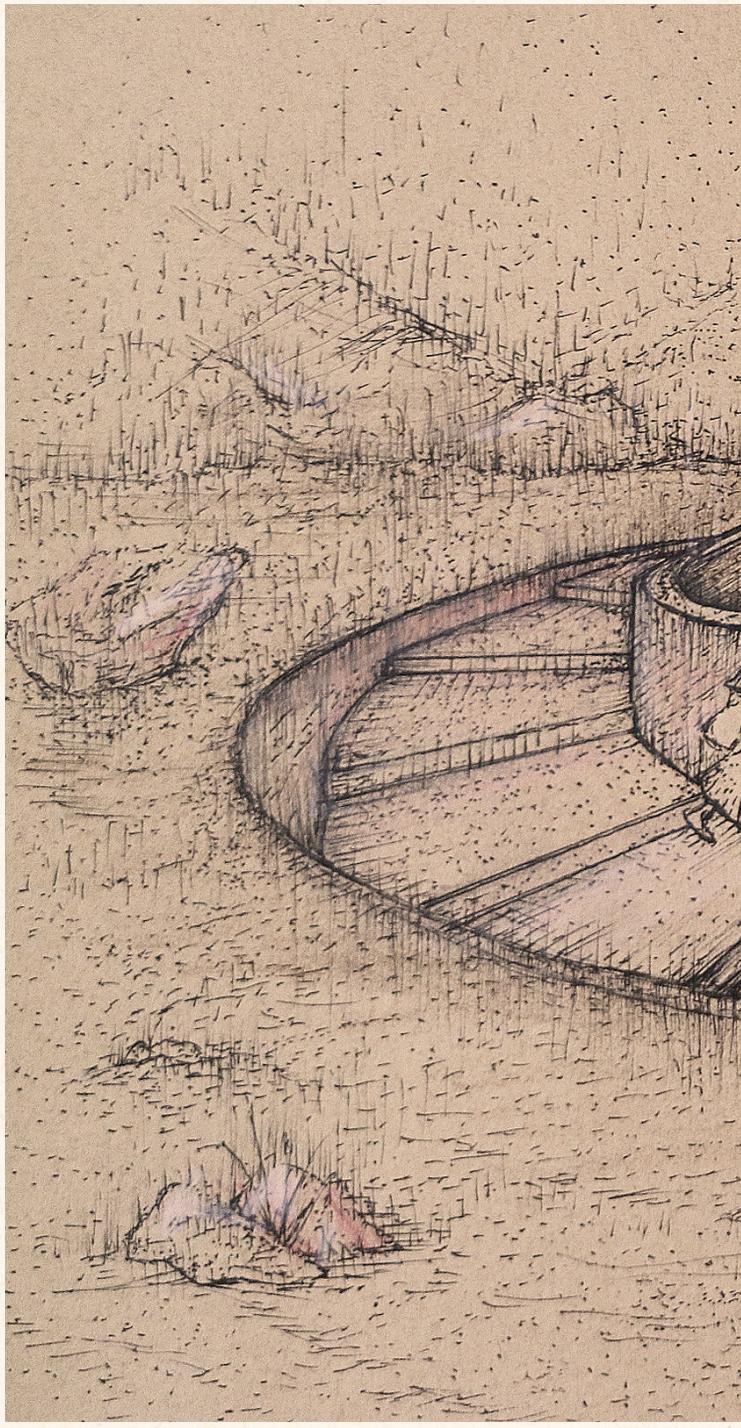
figure 5.35

Design intervention: exploded axonometric

drawn by author

Earthly Ascension

Sunlight's radiance
Familiar sounds
Highlighting channels
It's arteries are routes
We take for sustenance



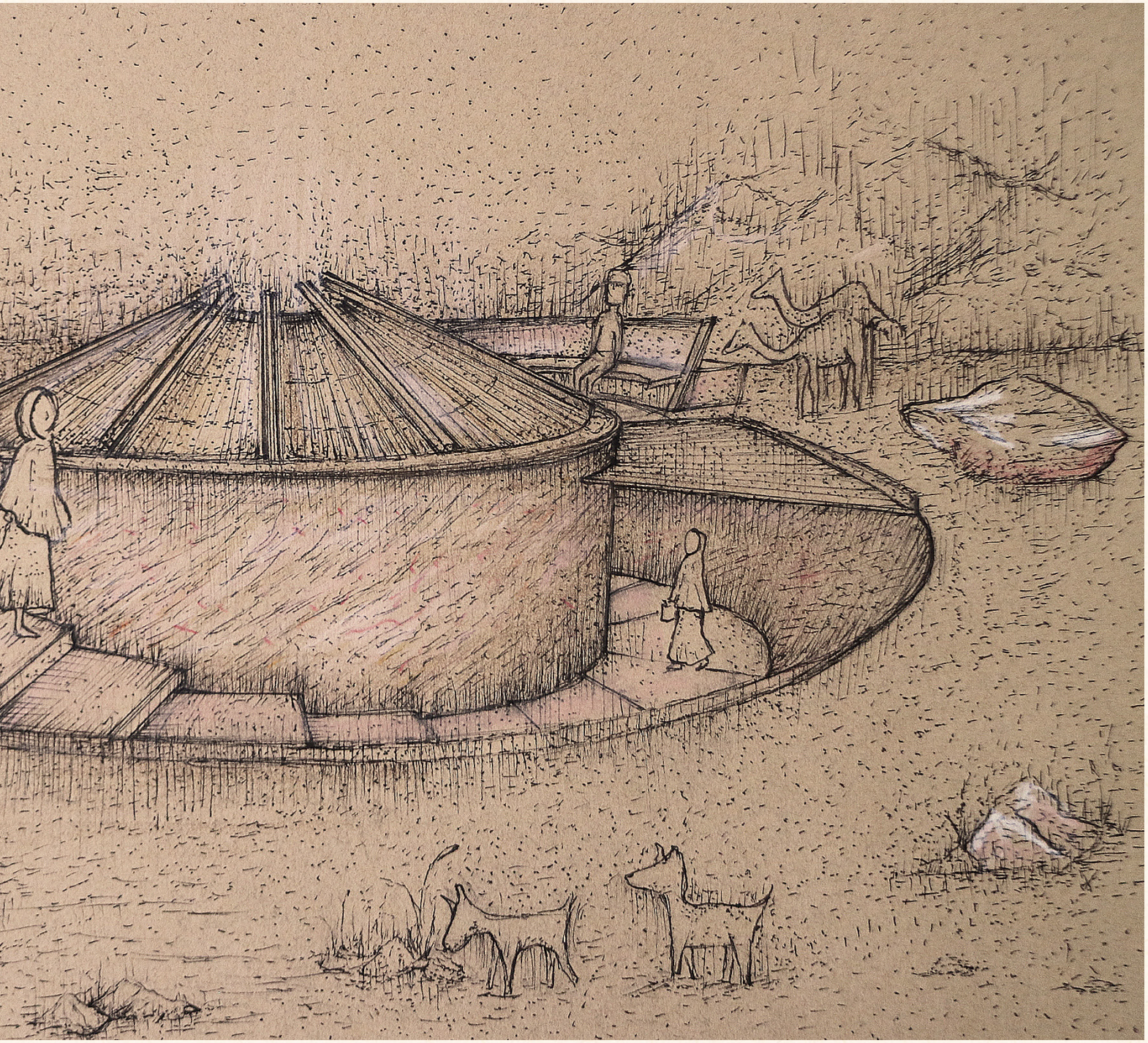


figure 5.36

Design intervention: spiral staircase
drawn by author

Substratum

To emerge from within
Embracing elements
Where idle light seeps
Through perforations
Trickling uncontrollably
Filling cratered voids
Casting shadows
On undisturbed earth



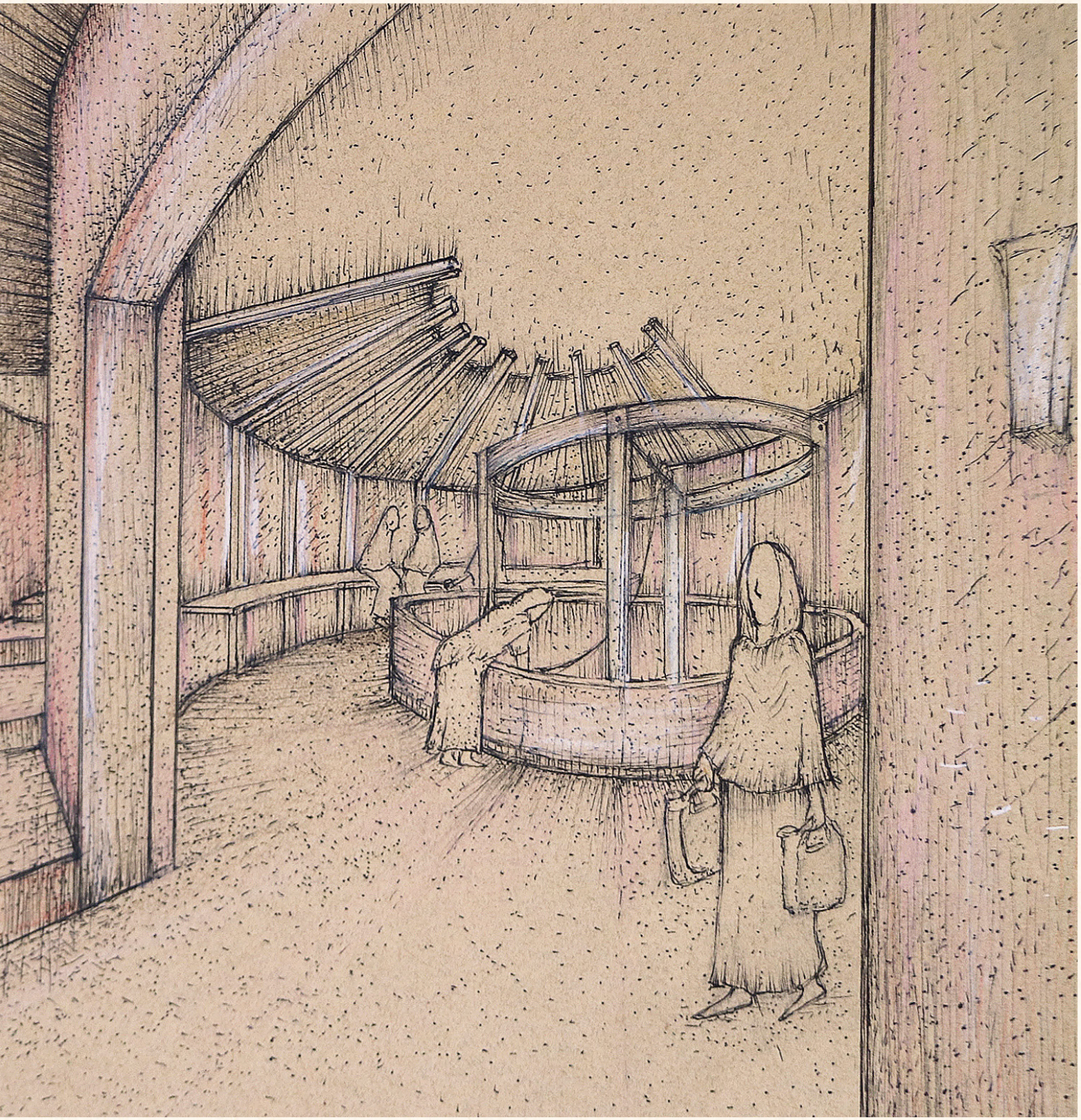


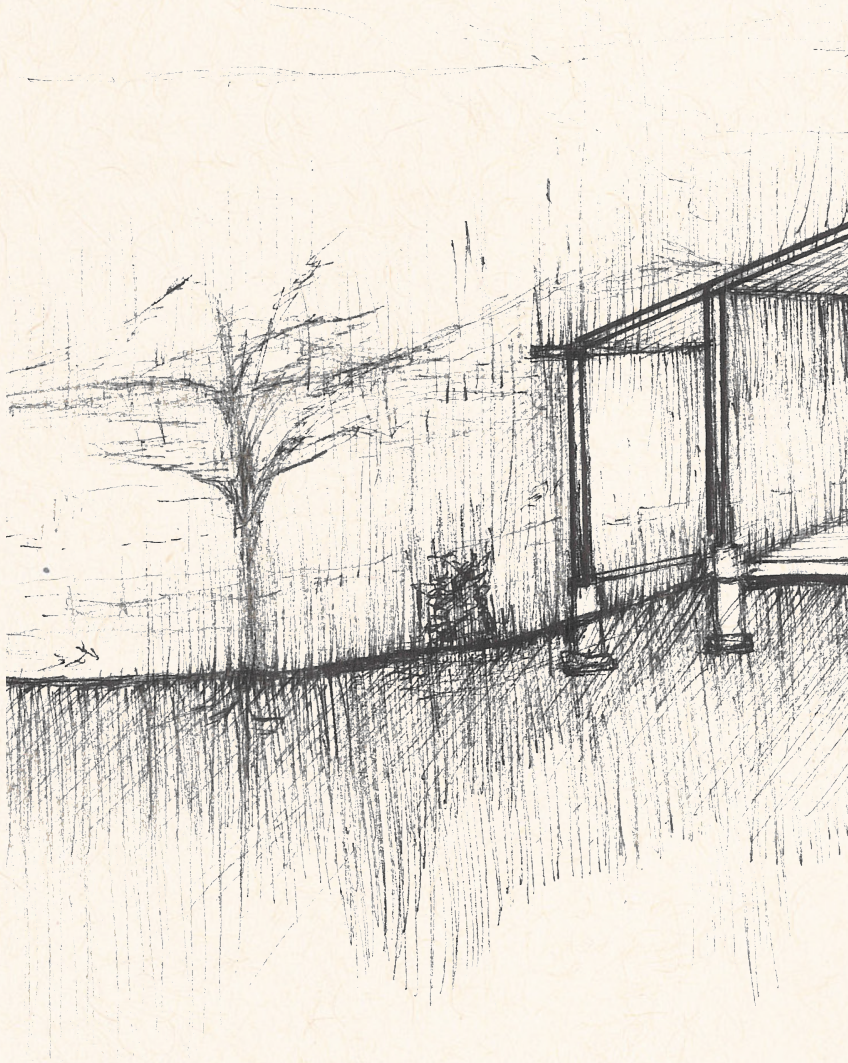
figure 5.37

Design intervention: interior entrance

drawn by author

06

Iterative Process Within Design



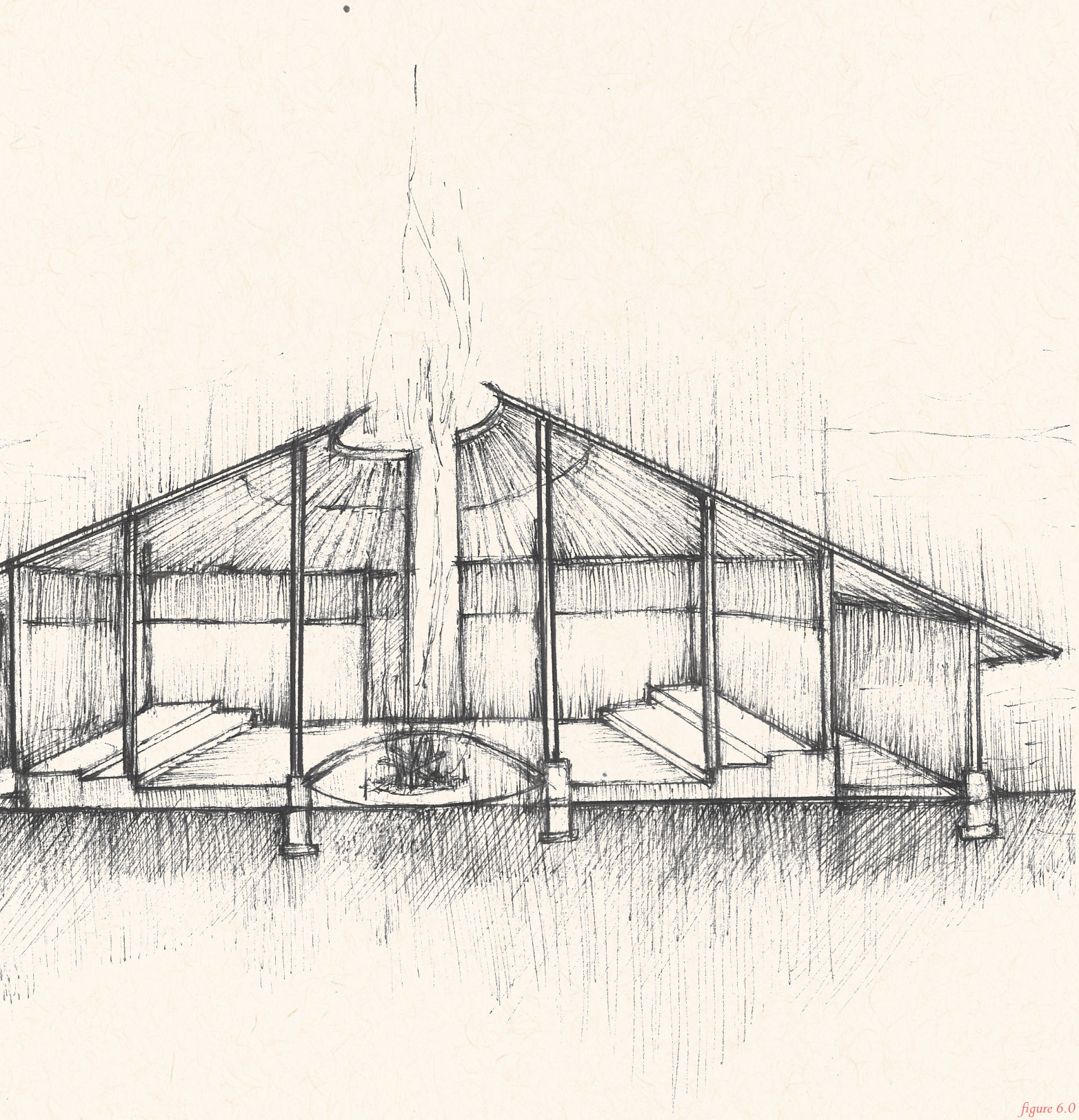


figure 6.0

Iteration of a community center, section

illustrated by author

6.1 _ Clarification Through Drawing

The cyclical process of drawing an object, going over, and adjusting it multiple times increases clarification within the overall design. It's the act of trusting the process, following intuition, making adjustments with certain aspects you find obscure and slightly off. It's never-ceasing until you are fully satisfied with the outcome. Until it rests well in your heart, and there is no desire to make any other alterations. Only once your level of internal contentment is reached, that is when you will receive the signal to stop all courses of action. To put one's pen, or chosen medium down, and reflect on their labor.

When I first began designing the pavilion, it required multiple explorations at many scales. The most versatile and best way for me to make all aspects of the design palpable was to go through the lengthy process of drawing every specific detail by hand, whether it was the texture found on rock faces, or the light filtering through the spacings within the roof. As I progressed each step, I underwent a constant dialogue with myself, where I questioned every decision I made.

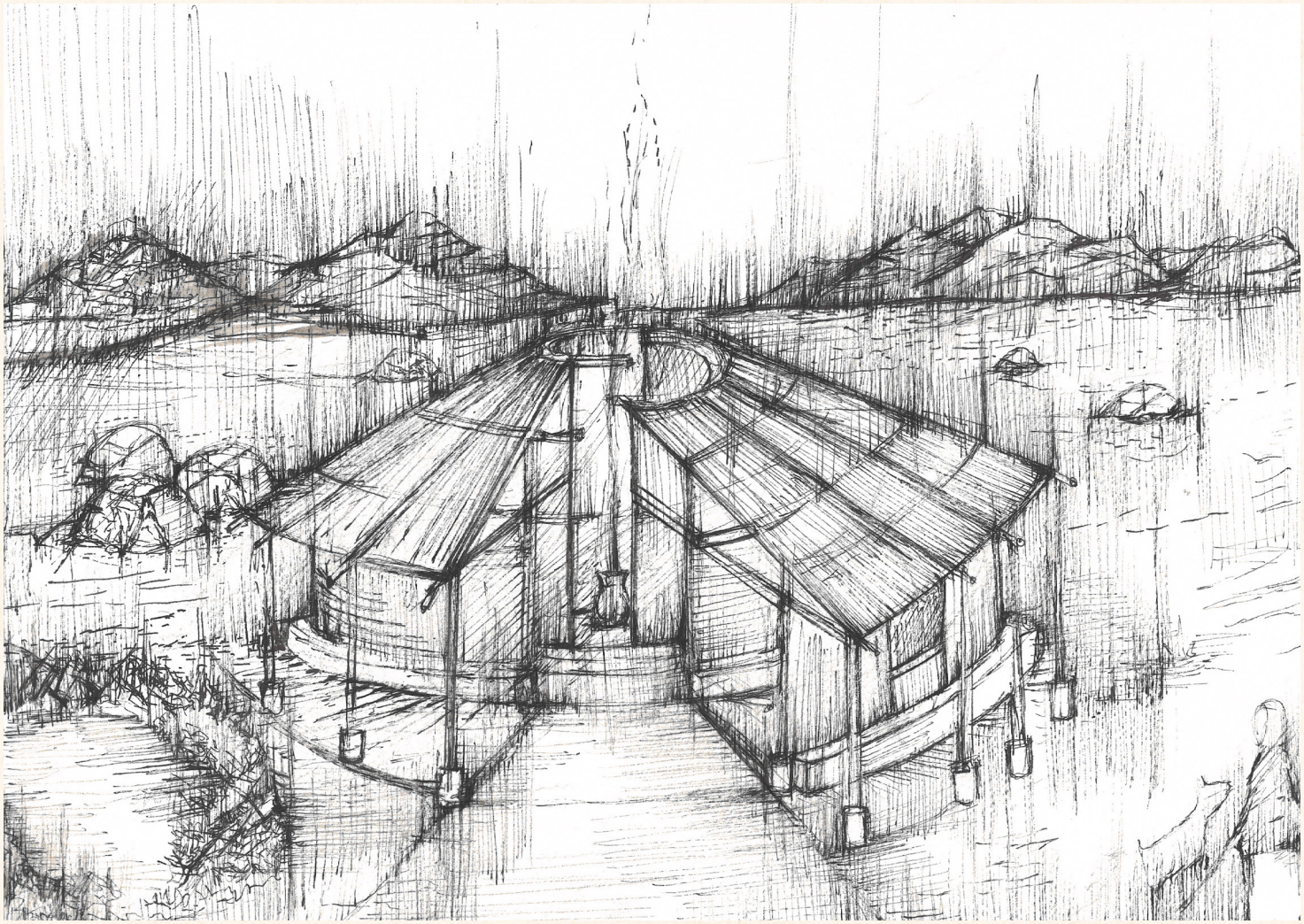


figure 6.1

Iteration of a community center, exterior view

illustrated by author

I felt as though each one of my drawings had a spirit of its own as if every aspect intended to be in line with my emotional rationale. There was a higher weight of importance attached to each drawing. Where I knew as the drawer, that I could not merely replicate it accurately, that every iteration would constitute something entirely new, even within the smallest details. That was the beauty of it; the act of repetition strengthened the overall narrative. And in some ways, I viewed the process of drawing similar to the quest and inquiry about my lineage and going back to my ancestral roots. Drawing allowed me to trace my thoughts, pin them firmly down, and proclaim my intentions. I found every aspect from the initial sketch to the final piece as part of the grander story. They both were the same in my eyes because I could see, feel, and remember the origins of the final image by merely looking at the sketch. And vice versa, I could already anticipate the last works by looking at drawings of the initial idea.

Primarily all the images I've produced for the thesis, whether it was included in the book or not sheds light on the final design. The whole process is relevant because these were crucial steps that needed to be made to achieve a satisfying level of design.

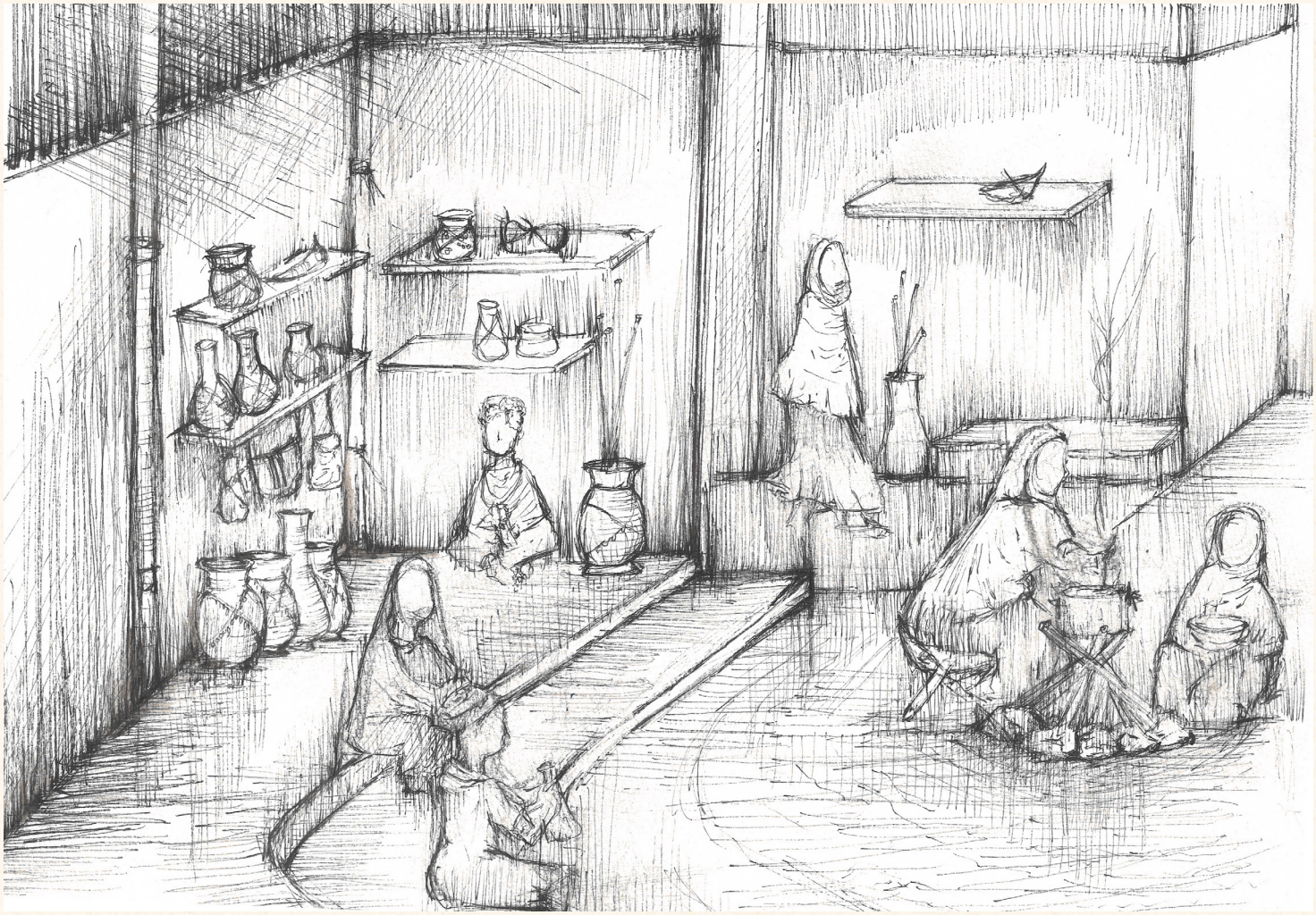


figure 6.2

Iteration of a community center, interior space

illustrated by author

6.2 _ Speculations on the Design

The new design typology for the well has not been seen within Somaliland, or rather the idea of integrating public space around areas that previously served only for infrastructural purposes. My design speculates on the boundaries between modern life and traditional practices. There was a fine line between newly introduced materials such as concrete and minimal natural occurring materials such as acacia fibers. These boundaries tie in with the availability of water and how it is present during certain times of the year. I wanted the role of obtaining water to become the medium that tackles the barriers between gender and class, and my design research brought to the surface the conflicts between the older and newer ways of life . Pushing the design further, I would respect the gendered boundaries established by nomadic societies, and I would aim to incorporate these changing roles within the design as much as possible.

The flaws within the current design would be the lack of partitioning to accommodate the segregated spaces, such as having separate areas for both males and females. Another issue is the use of new materials without the consideration of traditional elements, whether it'd be through ornaments or relief patterns and symbols.

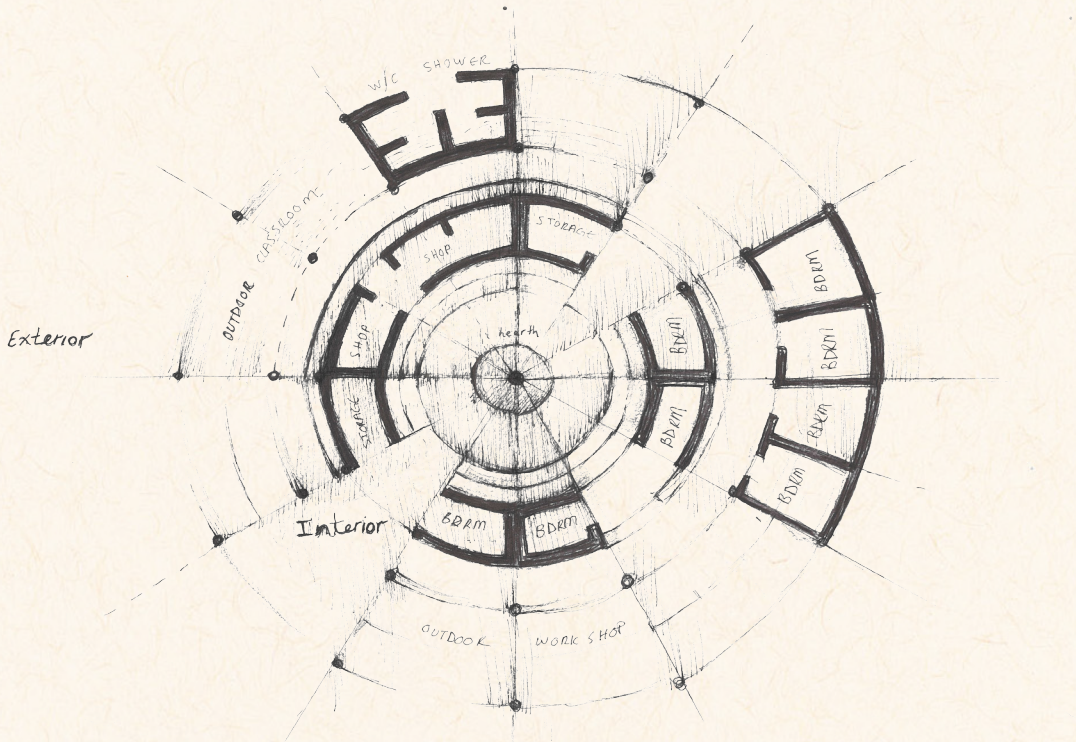


figure 6.3
Plan of a community center
illustrated by author

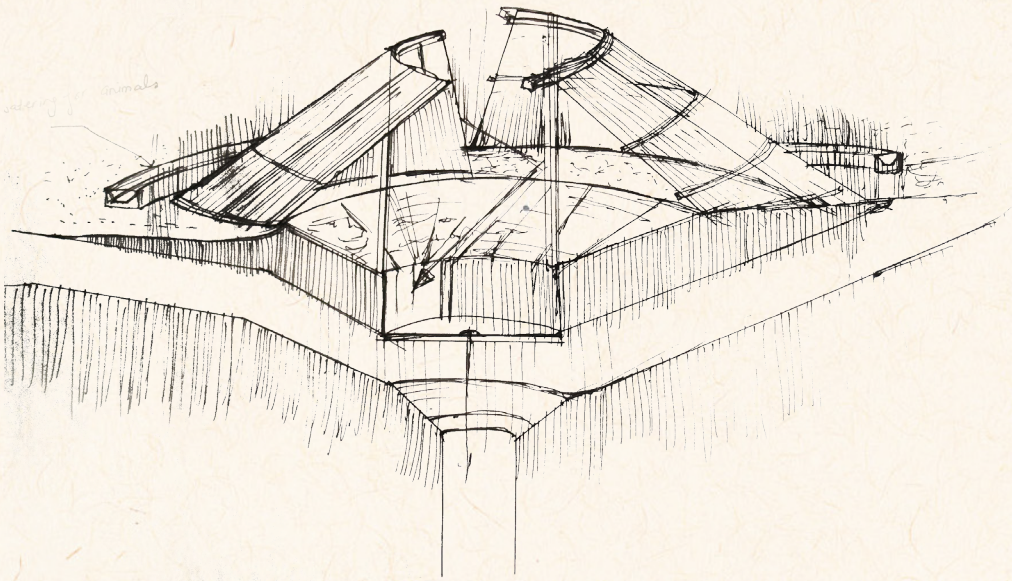


figure 6.4
Iteration of pavilion
sketch by author

The idea of being nomadic is the concept of adaptation; it's about moving and mixing with one's surroundings. Submerging the pavilion within the ground hints to the boundaries placed by the heavens above to what lies deep beneath the earth. The intent was to design a public space that allowed for open discourse such as poems and mutual exchanges that all revolved around the act of getting water.

The problem with the design was that it doesn't fully take in the social roles of women. The simple alteration would have been to provide water access and social gathering areas both above and below ground to respect the gender relations. By situating both genders nearby, one another allows for them to acknowledge each other's presence, therefore strengthening their whole as a community.

I think the whole process is entirely constructive; the design becomes the moving center that instigates change and open discussions. I intend the design to challenge the way the people of Somaliland thought about their spaces, in terms of becoming something purposeful and a place where they could construct and leave a lasting narrative. In the future, I look forward to seeing the changes pastoralists and nomads have towards shaping their future, having a stance, and marking their places in a drastically changing world.

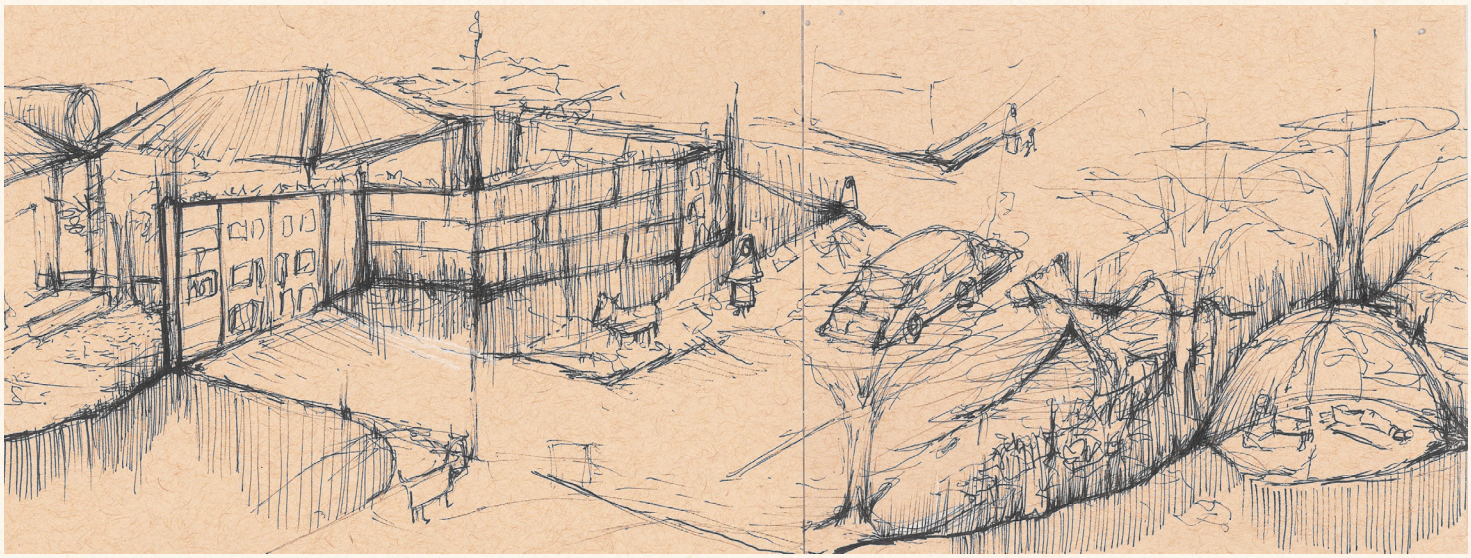
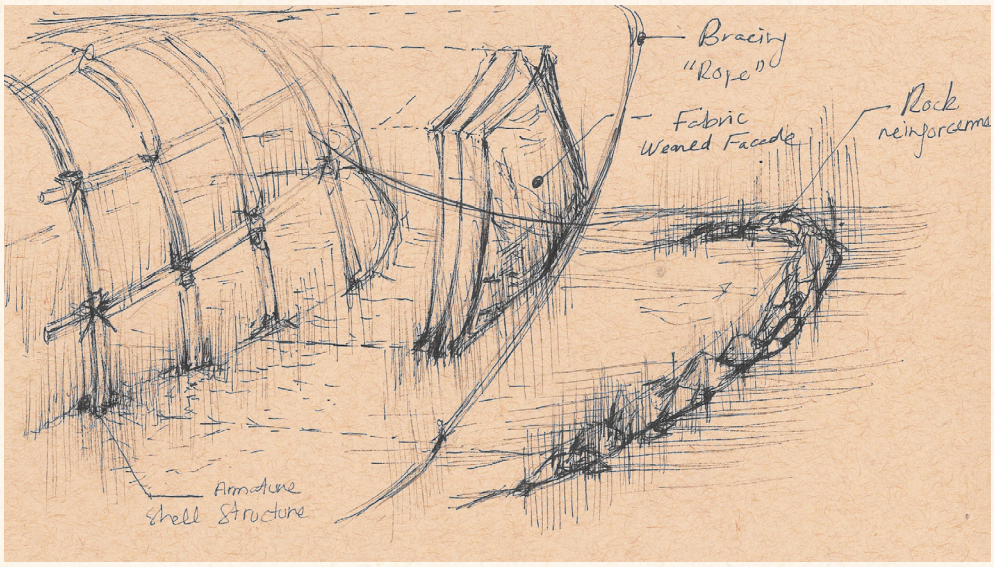


figure 6.5
Social difference in the city of Hargeisa
sketch by author



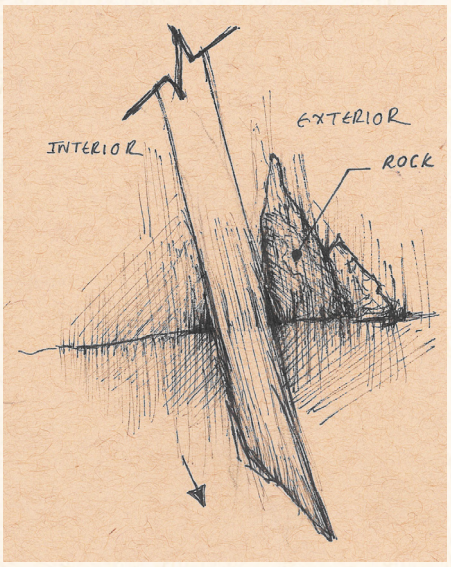


figure 6.6
The huts components and foundation analysis
sketch by author

Conclusion

The research behind "Nomadic Passage: Water Conservation and Land Preservation" aims to shine a light on the significance and lives of nomadic individuals, from their cultural traditions, ingenious building techniques, to the social construct revolving around the necessities of water. The kinetic aspects of their lives and their drive for sustenance became a source that instigated me to piece together the narratives of my origin, especially in a way that poetically made sense to me, through photography and drawing. Their cycle of establishing roots during prosperous seasons and the need to subsequently move followed the flow set by the natural universe. It was on a similar cycle to how plants were revived when there was adequate rain but failed to exist when the land became parched. Nomadic life is intrinsic to the patterns that occur within the phenomenology and sequence of the worlds, especially the duality between life and death. The availability and lack of water thereof have placed nomadic existence on edge, where the materiality used in both sustaining their animals and the crux for building their homes have perished.

The relevance of nomadic culture and history have become deeply rooted within the narratives that revolved around their daily lives. The lyrics of songs and stanzas of poems have become ingrained in specific household roles and responsibilities. The depleted land posed a threat to this knowledge but did not entirely wipe away the importance of tradition, rituals, and stories as they have always remained stored within the memories of the older generation. The act of memorizing became a highly valuable tool, as it was the only mechanism in which knowledge was propagated, preserved, and passed down.



figure 6.7
Nomadic Hut, Rural Outskirt
Hargeisa, Somaliland
photograph taken by author







Nomadic Passage:

Water Conservation and Land Preservation

figure 6.8
Nomadic Passage
sketch drawn by author

Special thanks to everyone who
assisted me along the journey

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