

THE MAASAI KNOWLEDGE EXCHANGE

BY
MICHAEL HASEY

“The world is like a mask dancing. If you want to see it well you do not stand in one place.”

- Chinua Achebe

MAASAI KNOWLEDGE EXCHANGE

By Michael Hasey, (Hon) B.Arch.Sc., M.Arch.

Design Studio Directed Research Project

Submitted to the McGill University School of Architecture in partial fulfillment
of the Requirements for the Degree of Master of Architecture

McGill University

Submitted by Michael Hasey, May 2015

TABLE OF CONTENTS

ACKNOWLEDGEMENTS	1
FORWARD	3
INTRODUCTION	5
THE MAASAI	
Location	
E. Africa	8
Kenya	9
Kajiado County	10
Loodariak	11
Maasai Territory	12
Architecture	
Traditional Architecture	15
The Enkaji	16
The Enkang	18
Enkang Modification	20
Enkang Catalogue	22
Enkang Adaptability	24
Territory	
Wilderness	29
Traces	31
Living In the Margins	34
Oltepesi	36
Local Community	38
Challenges	
Hardships & Challenges	40
Stereotypes	43
A Growing Problem	44
Pastoralism	
Overview	46
A Vital Trade Network	50
Communication	
Network Limitations	52
Network Opportunities	54
PERI-URBANISM	
Its Effect On the Maasai	59
Kenya Vision 2030	62
Real Estate Boom	65
Peri-Urbanism In Action	66

Town "X"	68
Loodariak's Future?	70
Loodariak 2025	72
SITE	
Panorama	77
Landscape	79
Loodariak	80
The Town	85
The Hill	89
FINAL DESIGN	
Overview & Birdseye View	96
Floor Plan	98
Distant Approach	100
Entry Gates	102
Entry Passage	104
Outdoor Spaces	106
Computer Lab & Library	108
Private Meeting Space	110
Large Meeting Space	112
Building Section	114
Flexible Wall Diagram	116
Program Relationships	118
PRELIMINARY DESIGN	
Overview & Birdseye View	122
Site Plan	124
Floor Plan	125
Approach	126
Entry Gate	128
Courtyard	130
Interior	132
Axonometric Diagram	134
Process Diagram	135
Axonometric of Parts	136
Exploded Axonometric	137
Building Elevations	138
Building Sections	139
Construction Diagram	140
Program Chart	141
Critical Re-Assessment	142

DETAILED SITE ANALYSIS

Landscape Sample Analysis	148
Site Survey	155
Geology	158
Volcanic Brechea	160
Climate	162

SKETCHES & QUESTIONS

Sketches	166
Research Questions	172

TRAVEL RECORD

Journey Route	176
Maasai Mara	178
Narok	179
Nairobi	180
Kibera	181
Kiserian	182
Loodariak	183
Travel Companions	184

ADVISORS, CONTACTS & COLLABORATORS

Academic Advisors	188
Collaborating Foundations	189
Collaborating Academic Institutions	190
Kenyan Contacts	191

ACKNOWLEDGEMENTS

I wish to express my sincere appreciation and gratitude to those individuals and organizations that have helped contribute towards the successful completion of my Master of Architecture thesis. To begin, I would like to send a special thank you to my primary advisor David Covo for working very intensely with me over the past year and providing me with fantastic insight, recommendations, and opportunities that helped enrich and strengthen my final architectural design. Secondly I would like to express my great appreciation to my secondary advisor, Ipek Türeli, who was a guiding light towards a better understanding of how architecture can empower a culture so embattled with challenges while simultaneously respecting, protecting and strengthening their vital culture and position within society. I'd also like to sincerely thank Dr. John Galaty, Canada's leading expert on the Maasai and anthropology professor at McGill, for spending countless hours with me in order to expand my understanding and appreciation of the Maasai's wonderful culture. I would also like to thank Teriano LeSancha, founder of The SupaMaasai Foundation, George Phu, Operations Manager of The SupaMaasai Foundation, and the rest of the SupaMaasai team for enthusiastically involving me in their vision to better the lives of the Maasai people. In addition, I would like to extend a special thanks to Teriano's family and relatives in Loodariak, Kenya who welcomed me into their home with open arms and treating me like part of their family. I would also like to send my gratitude to Saruni LeSancha, Reuben, and Mama and Papa Teriano for the guidance, hospitality and knowledge they provided during my stay in Loodariak. I look forward to seeing you all again someday soon. Finally, I would like to give my earnest thanks to my friend Max Vogrin who approached me with the first step that flourished into this eighteen-month long journey.

In addition to those mentioned above, I would also like to express my sincere thanks to the following individuals for their greatly appreciated help, insight, and assistance:

Jan Allen	Architectural Designer
David Angell	Canadian High Commissioner to Kenya
Naeem Biviji	Architect & Furniture Maker
George Indas	Architect
Dr. Kamau Gachigi	Professor at U. Nairobi
Elijah Kitaka	Google Program Manager
Silvester Letoluai	Secondary School Principle
Prof. Geoffrey Maloiy	Chancellor of JKUAT
Joseph Mucheru	Google Sub-Saharan Africa Ambassador
Steven Ndubi	Architecture Student
Charles Newman	Architectural Designer
Prof. P.G. Ngunjiri	Associate Professor, JKUAT
Ella Peinovich	Founder, Soko
Bethan Rayner	Architect & Furniture Maker
Peter T. Ole Saika	CEO/Technical Director of Ereto Builders
Daniel Saiva	Chairman, Department of Construction Management, JKUAT
Caleb Toroitich	Chairman, Department of Landscape Architectur, JKUAT

FORWARD

The contents of this thesis represent an exciting eighteen-month period of cultural exposure, academic research, and architectural design. Beginning in the late winter months of 2014, my journey began after a simple phone call with an old friend who was working for Ryerson University. During this conversation, I was offered the opportunity to become involved in the design of a Maasai community centre in Kenya for an organization called The SupaMaasai Foundation. Though the project was unlike any one that I had done before, I was nonetheless interested in participating. As I became increasingly involved with the project and absorbed by the culture and history of the Maasai, I saw the opportunity to develop an academic thesis in parallel with this topic thereby benefiting both projects. Soon afterwards, I found myself speeding towards Kenya on a plane for a one-month research trip that would take me across the southern regions of the country. By addressing both projects, I was able to approach the building design from two very distinct angles. On one hand, the community centre project allowed me to view the Maasai through a contemporary social and humanitarian lens, giving me access to an intimate understanding of their daily lives and the challenges they face. On the other, the academic demands of my thesis project gave me the opportunity to understand how the Maasai are affected the larger social, political, and economic systems of Kenya. In conjunction, these two distinct perspectives provided me with the unique opportunity to gain a more comprehensive understanding of the Maasai, allowing me to make more informed and responsible design decisions for both the SupaMaasai Cultural Centre and The Maasai Knowledge Exchange thesis project. Though the initial phone call that began this journey lasted only minutes, the consequence was eighteen productive, exciting and satisfying months that I'll never forget!



INTRODUCTION

The Maasai are a pastoral and traditionally semi-nomadic people who occupy regions of Southern Kenya and Northern Tanzania. Since the colonial occupation in the early 20th century, the Maasai have been commonly portrayed as one of the most vocal ethnic groups in Africa to continually oppose modernization. This widespread belief has been reinforced through their romantic depiction in popular film, literature, and images, as a warrior people whose culture and existence has remained largely unaltered for hundreds of years. As a result, many perceive the Maasai as an archeological remnant society fiercely resistant of any participation within contemporary civilization. As a consequence, the Maasai's true nature and involvement within modernity remains largely overlooked and misunderstood.

From their use of smart phones and social media to their major contribution towards the GDP of both Kenya and Tanzania through their livestock trade networks, the Maasai are in fact an intensely active participant in contemporary society. Nevertheless, stereotypes continue to flourish, perpetuating the belief that the Maasai are primitive and irrelevant. As a result, the Maasai have been subjected to various forms of discrimination such as unrestrained land grabbing, inadequate community safety, lack of proper health and education services and overall government neglect. Difficulties like these not only endanger individual and collective wellbeing, but also jeopardize the wider network of social, economic, cultural and political systems that rely on Maasai prosperity for their success.

In reaction to these problems, hundreds of local Maasai social groups have emerged to tackle the various issues that plague their communities. However, due to the absence of proper facilities, infrastructure, and technology, many of these organizations lack the basic means to gather, organize and publicize their ideas and initiatives. As a response, my project intends to provide the much-needed architectural space to accommodate the growing number of social groups, house and power the digital tools necessary to support their initiatives and draw attention to their emergence as a vital part of Kenyan society.

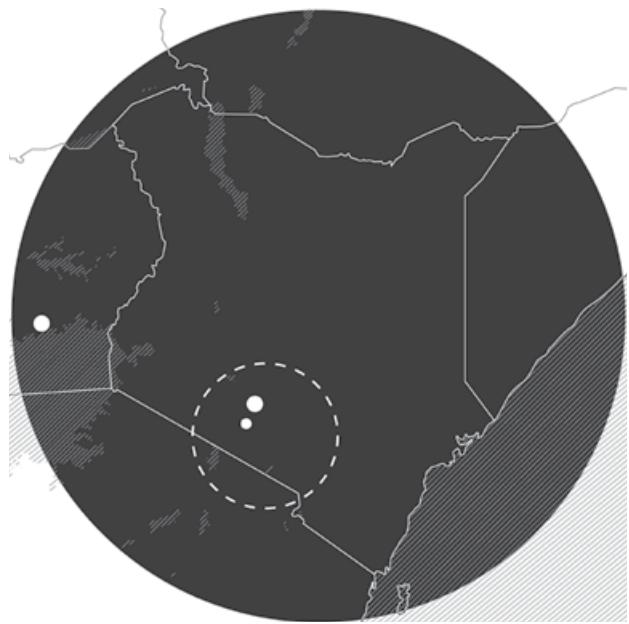
By acting as a focal point for entrepreneurship, networking, idea exchange, and education, my project will help empower the Maasai at the individual and community level. By strengthening their voice through a built environment of both traditional and contemporary architectural elements, the Maasai's collective call for change will be loudly heard at both a national and international scale. As a concrete manifestation of both their involvement in modernity and respect of tradition, the Maasai Knowledge Exchange will assist their pursuit of having the freedom and ability to decide their own future.

THE MAASAI



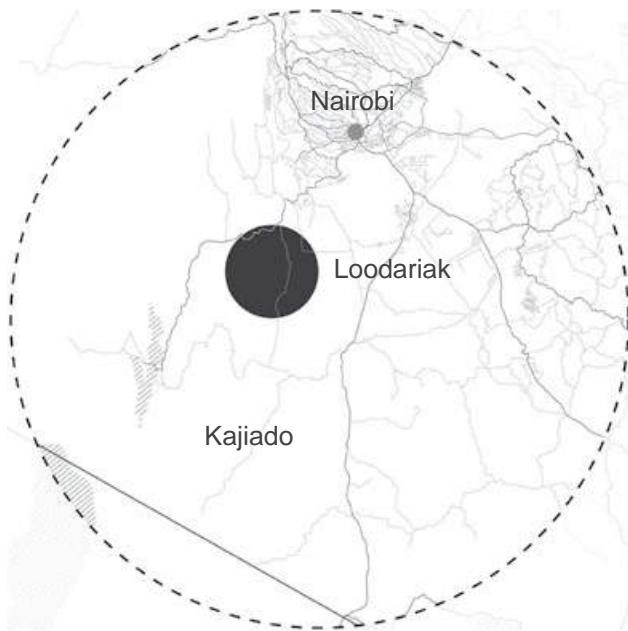
E. AFRICA

The Maasai are one of many ethnic groups that occupy the countries of East Africa. Currently, they reside in both Kenya and Tanzania and have called these countries home for more than 2500 years. With the East African Rift cutting through both countries from North to South, large swaths of semi-arid regions have formed over thousands of years and provide the ideal semi-arid conditions that are necessary to support the Maasai's pastoral and traditionally semi-nomadic livelihoods.



KENYA

In Kenya, the Maasai currently reside in the Southern regions of the country. Their land stretches from Nairobi to the Kenya/Tanzania border in the South, and extends from Lake Victoria in the West and all the way to Mount Kilimanjaro in the East. However, due to various hardships imposed upon the Maasai, many have left this region in order to settle in large cities and other towns that may offer more jobs and opportunities.



KAJIADO COUNTY

Formed in 2010, Kajiado County is the largest territory within the Maasai occupied regions of Kenya. With a population of over 800 000, the county includes a number of large Maasai urban districts such as Kiserian, Ngong, Ongata Rongai, and Kajiado as well as large swaths of Maasai occupied semi-arid rangeland and natural landscape.



LOODARIAK

Located in Kajiado West in the district of Oltepesi, Loodariak sits on a spectacular plateau at the base of the wall of the Great Rift Valley. Though the town is only an hour and half's drive south of Nairobi, it is completely rural and is home to around 5,000 Maasai who herd their cattle and goats back and forth across this spectacular landscape.

TERRITORY

Over the past one hundred years, the Maasai have been relocated multiple times by various foreign political powers. However, prior to the onset of these outside forces, the Maasai had occupied a large swath of territory for thousands of years that covered a great portion of Kenya and Northern Tanzania. This territory reached its maximum size during the mid 19th century when the Maasai were at the height of their power and influence. However, by the late 19th century the British colonized both Kenya and Tanzania, and the Maasai's rule came to an end. This forced occupation resulted in the Maasai's land being claimed as British territory and the entire population being relocated to two small reserves within Kenya. This, in combination with a devastating plague that killed nearly two-thirds of the Maasai's population, would come to be known as the "Emutai" of 1883 -1902, which in Maa, the language of the Maasai, means "to wipe out". The Maasai remained on these two reserves until the independence of Kenya from British rule in 1962 and were then moved onto group farms on a larger reserve that spanned Southern Kenya and Northern Tanzania. These group farms would mark the beginning of the fragmentation and privatization of their traditional and essential communal graze lands that were at the core of Maasai culture. In the post-independent years, many of these group farms were further fragmented and split and were either sold off or occupied by single families. As a result, Maasai land became almost entirely privatized by individual families, foreigners, or by group farms. In recent years, land grabbing has increased exponentially as non-Maasai have taken advantage of precarious land-rights laws in order to forcefully obtain land.



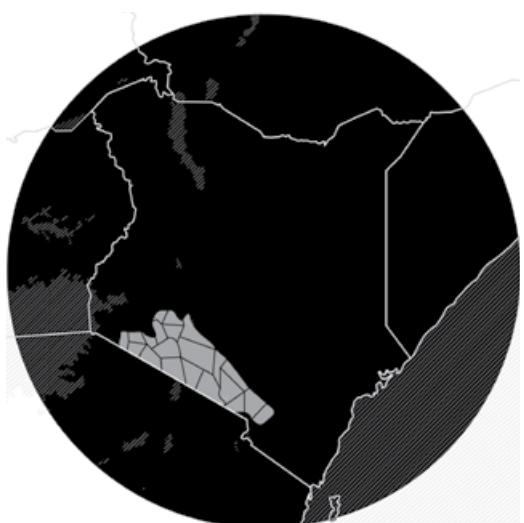
pre-colonial territory



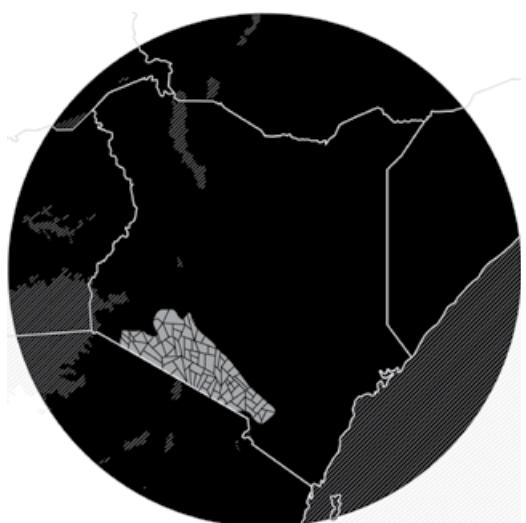
colonial reserves



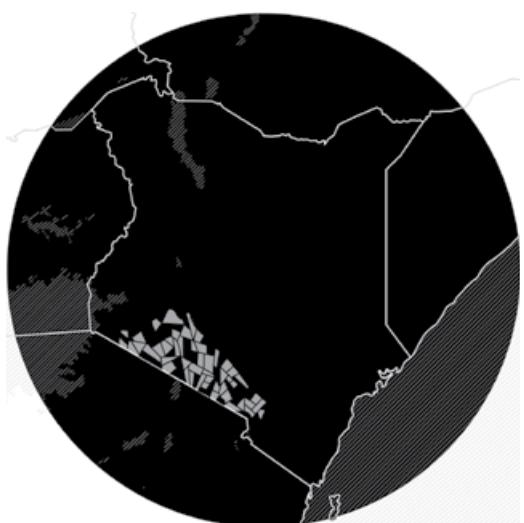
independance reserve



post-independance group farms



privatization of land



selling of land



TRADITIONAL ARCHITECTURE

Though their social, cultural, economic, and political systems have changed alongside of the advance of modernity, the vast majority of Maasai continue to construct and live in traditional cow dung homes and fenced in homesteads. These homes, which the Maasai call Enkaji, as well as the large thorn fence enclosures that surround them, called Enkangs, make up the full breadth of Maasai architecture. However simple we may perceive their architecture to be, the Maasai Enkaji and Enkang are in fact ingenious, effective, and flexible constructions that perform very efficiently in the resource poor and remote environments in which they are found. This ingenuity can be found in both their efficient use of scarce materials in their construction, their ability to passively control interior climate, their capacity to accommodate different and changing programs, and their capability to protect their occupants from the threats of the exterior environment. In addition, their architecture has profound social, spiritual and symbolic connections that reinforce and reflect their unique and valued culture. Finally, women are fully responsible for Maasai architecture, and are therefore intrinsically tied to every aspect of its design, construction, and maintenance.

THE ENKAJI

The Enkaji, or Maasai home is found within the Enkang or thorny fenced enclosures. It is designed and constructed entirely by females, and in particular, the wives of Maasai men. The Enkaji are constructed with locally found materials as well as small pieces of metal and plastic that have been found or bought. The typical Enkaji looks like a low-lying rectangular form that has rounded corners. It is entirely covered in brown cow-dung and blends quite well into the natural background. Typically, Enkajis are around four or five meters long, three or four meters wide, and about two meters high. In terms of construction, they built directly on the ground and employ a timber frame construction. The typical Enkaji is entered through a single narrow doorway that is located generally in the centre of one of its exterior walls. When entering this doorway, one travels down a winding hallway that generally incorporates two or three short hairpin turns. This zigzag circulation towards the interior exists for two reasons.



image source: <http://maasai-people.wikia.com/w/index.php?title=File:16527-2-Manyatta.jpg>

The first is to prevent livestock from accidentally entering an Enkaji, and the second is to prevent dangerous animals or other people from having direct access into the heart of the Enkaji. This buffer zone allows the occupants to defend their home from outside threats. At the end of this entryway, one enters the main hearth where cooking, socializing, and other domestic activities happen. On either side of the hearth are sleeping spaces that are separated with a wooden screen for privacy. These small rooms include a single piece of stretched cowhide elevated on wooden pegs that act as mattress for sleeping. In addition, there is a separate bay for baby goats or sheep. This livestock room is either located directly off of the main hearth space or is accessible part way down the main zigzag entryway.

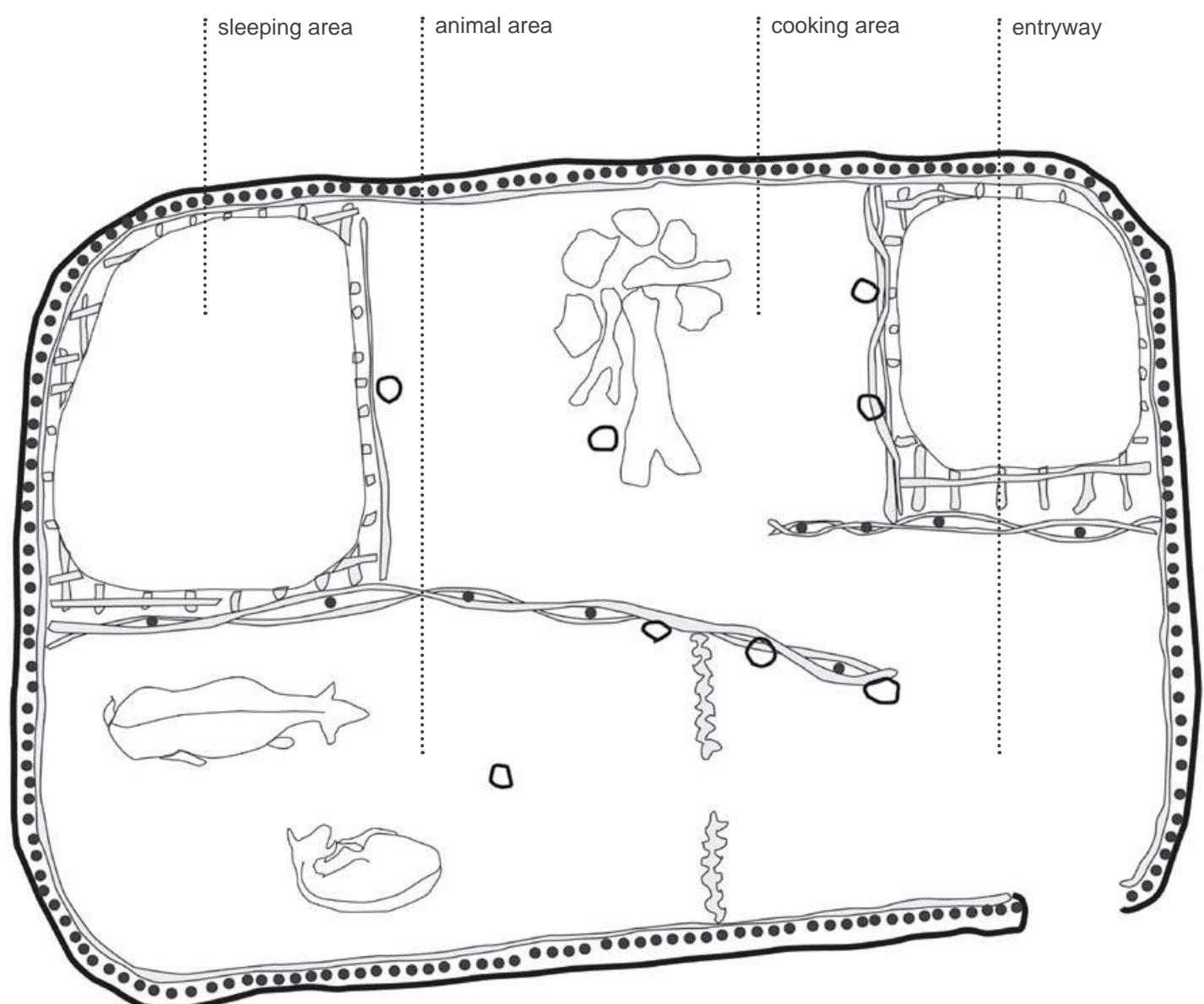


Diagram source: Rukwaro, R.W., Mukono, K.M. "Architecture of societies in transition - the case of the Maasai in Kenya". *Habitat International* 25 (2001) 81-98.

THE ENKANG

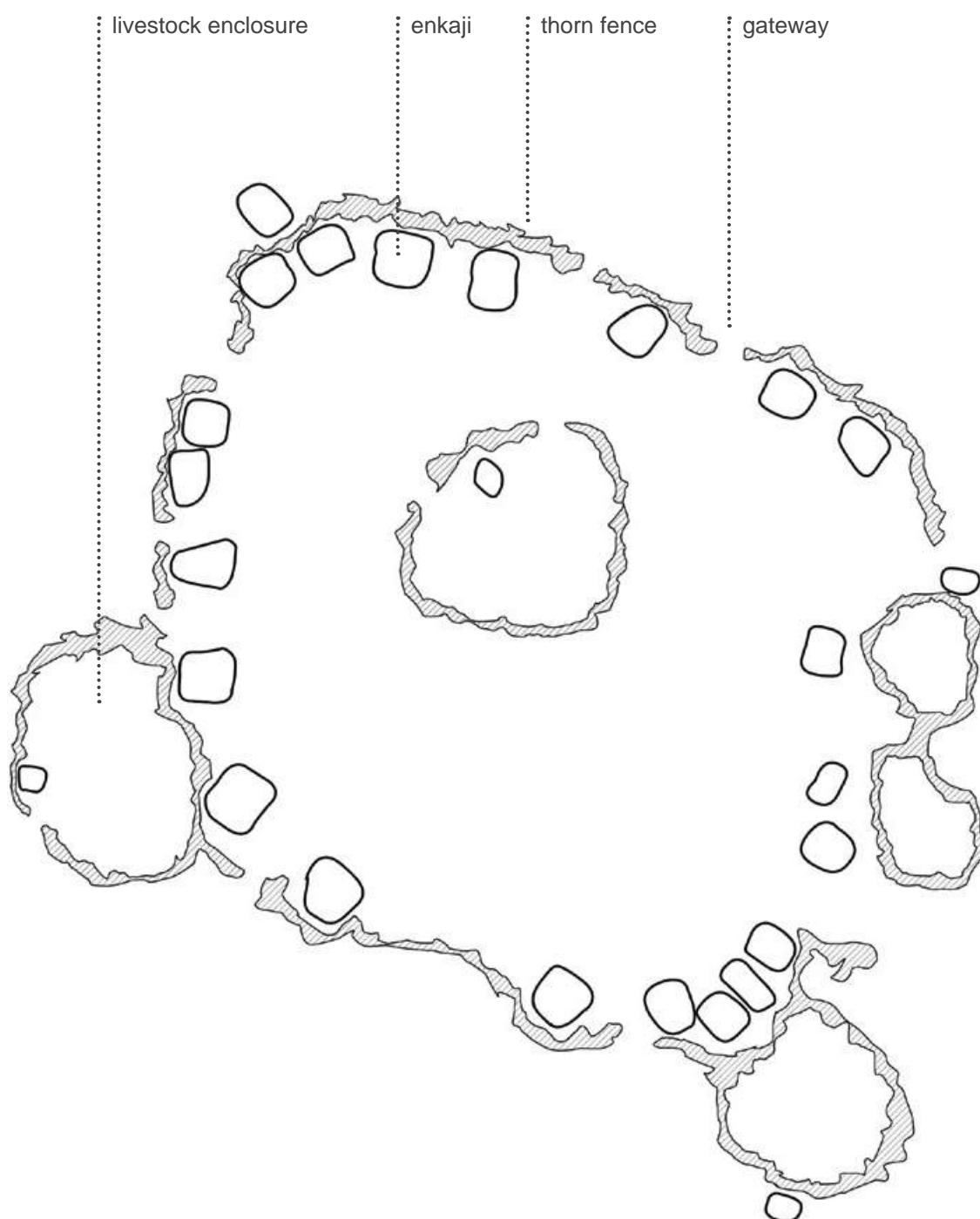
The Enkang is the Maasai term for fence or enclosure. It is the fence that is erected to not only enclose Maasai homes, but also demarcate livestock areas, eating spaces, and other programmed places that require open land. These fences are constructed out of various thorny branches that are piled high and then extended in a circular manner to enclose a space. These thorny branches come in two types. The first types are dead branches that are cut off of trees and piled together to make an impenetrable fence. The second type are the live fences which are branches of a specific tree, that when cut off and planted in the ground, continue to grow and spread roots, therefore becoming a living and much sturdier foundation for the wall.



Image source: www.greatbuildings.com/buildings/Maasai_Houses.html

GreatBuild

When completed, the wall is, in a sense, a cellular-like form that encloses and protects a fragile interior from the threats of a hostile exterior. These fences can reach heights of eight feet, widths of six feet, and enclose spaces of up to 100 meters in diameter. Generally, however, these walls are shorter and enclose smaller spaces. Nevertheless, they are all used for the same reasons; to prevent dangerous animals from entering, livestock from leaving, children from getting lost, and cattle raiders from stealing livestock. The fences also include a series of gates that are used to control who enters and leaves the homestead. Herders also use these passageways to move their livestock out to graze during the day and back in for protection at night.



ENKANG MODIFICATION

Enkangs are certainly not static constructs. These two examples showcase the Enkangs ability to morph and transform overtime to adapt to new activities, increases and decreases in livestock sizes, and additions and subtractions of families.



2007



2009



2010



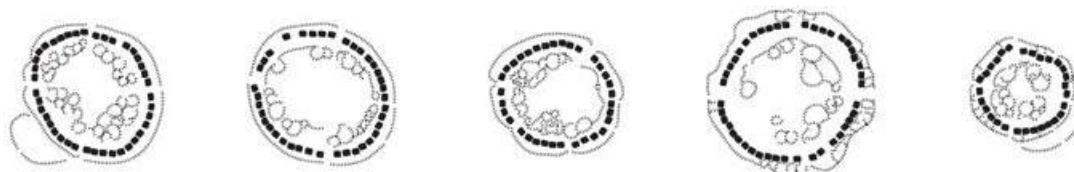
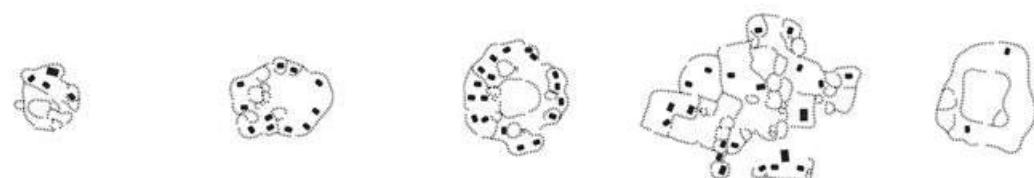
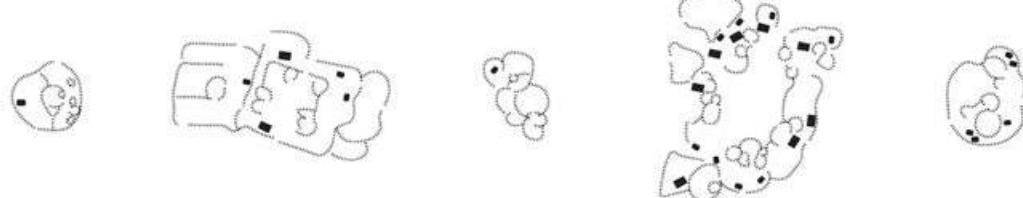
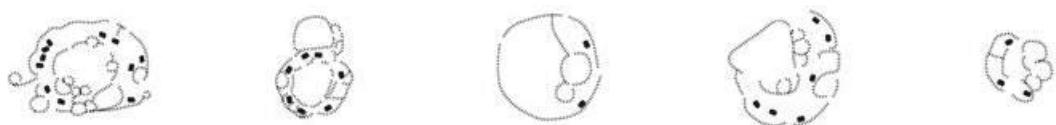
2013

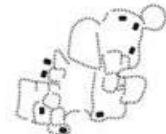
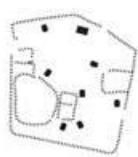
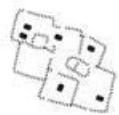
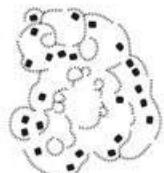
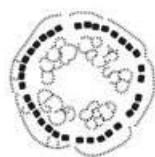
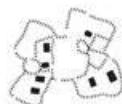
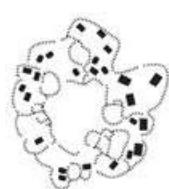
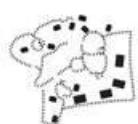
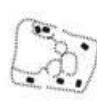
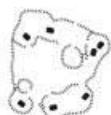
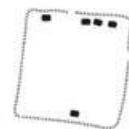
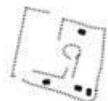


2011



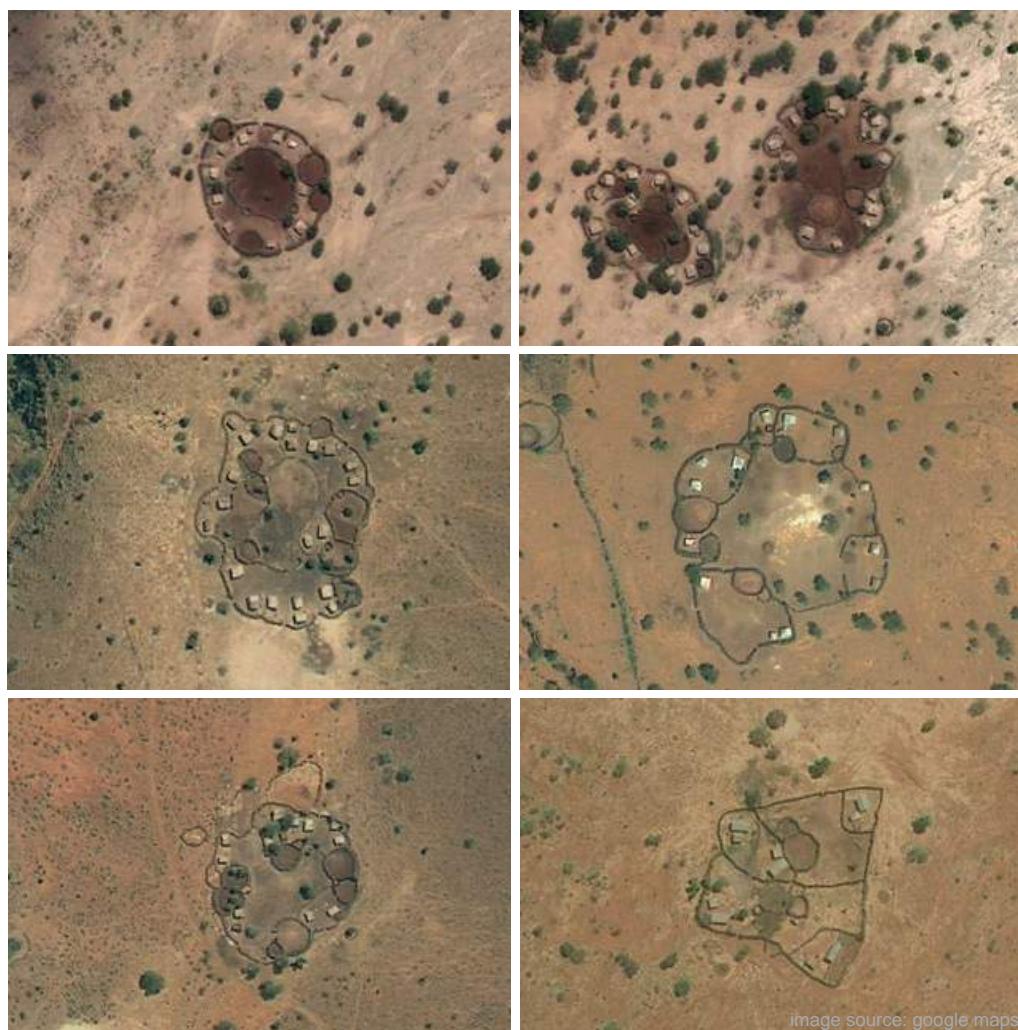
2014





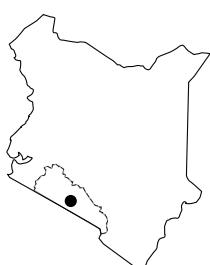
ENKANG ADAPTABILITY

The following section illustrates the incredible diversity and adaptability of the Maasai Enkang. Enkangs have the unique ability to be modified to serve a wide variety of livelihoods, activities, and uses. By comparing their physical characteristics from region to region, it is easy to understand how this relatively simple construct is able to morph and transform depending on its use. From the fertile lands North East of Nairobi in Enoosupukia where agricultural farming thrives, to the hot, semi-arid regions of the rift valley in Ewuaso Kedong, where animal husbandry is intensely practiced.



EWUASO KEDONG

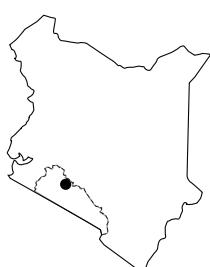
In Ewuaso Kedong, the vast majority of Maasai families pursue animal husbandry. This mode of livelihood is reflected in the large Kraal's or livestock enclosures within the Enkang. Kraals are void of any interior constructs and can easily be identified by their circular shape and dark interior soil colour. In addition, the Enkangs size is much larger in this area due to the high number of families who live together.





MAJI MOTO

Located only 35km South of the urban hub of Narok, Maji Moto is tucked below a region of sprawling farmland and wildlife reserves to the South. As the majority Maasai in this region have privatized their land and rely heavily on pastoralism as their main livelihood, their Enkangs are smaller and contain large livestock enclosures.





OLKIRAMATIAN

In Olkiramatian, many Maasai families are tied to the fertile agriculture land present in the region. Though the majority of families still keep livestock, they are less dependent on pastoralism as their main livelihood. This tie to agriculture is apparent in the Enkangs smaller livestock enclosures and its close proximity to fields.

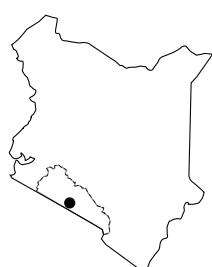




image source: google maps



WILDERNESS

A cluster of Enkangs sit alone in the remote wilderness of South-Eastern Kenya. With the threat of hyenas, lions, and criminals a familiar reality, the thorn-fenced Enkang provides an encompassing and impenetrable wall of safety. Like a biological cell, the Enkang protects its vital interior from the dangers of the hostile exterior world. It is within the interior that life, a family, livestock, games, and celebration can occur without worry.



image source: google maps





TRACES

Traces of ancient circular Enkangs can still be found across the expanse of Maasai land. Dirt stained by hundreds of cattle kept in kraals and rings of thorny trees left over from old walls can still be seen from above.





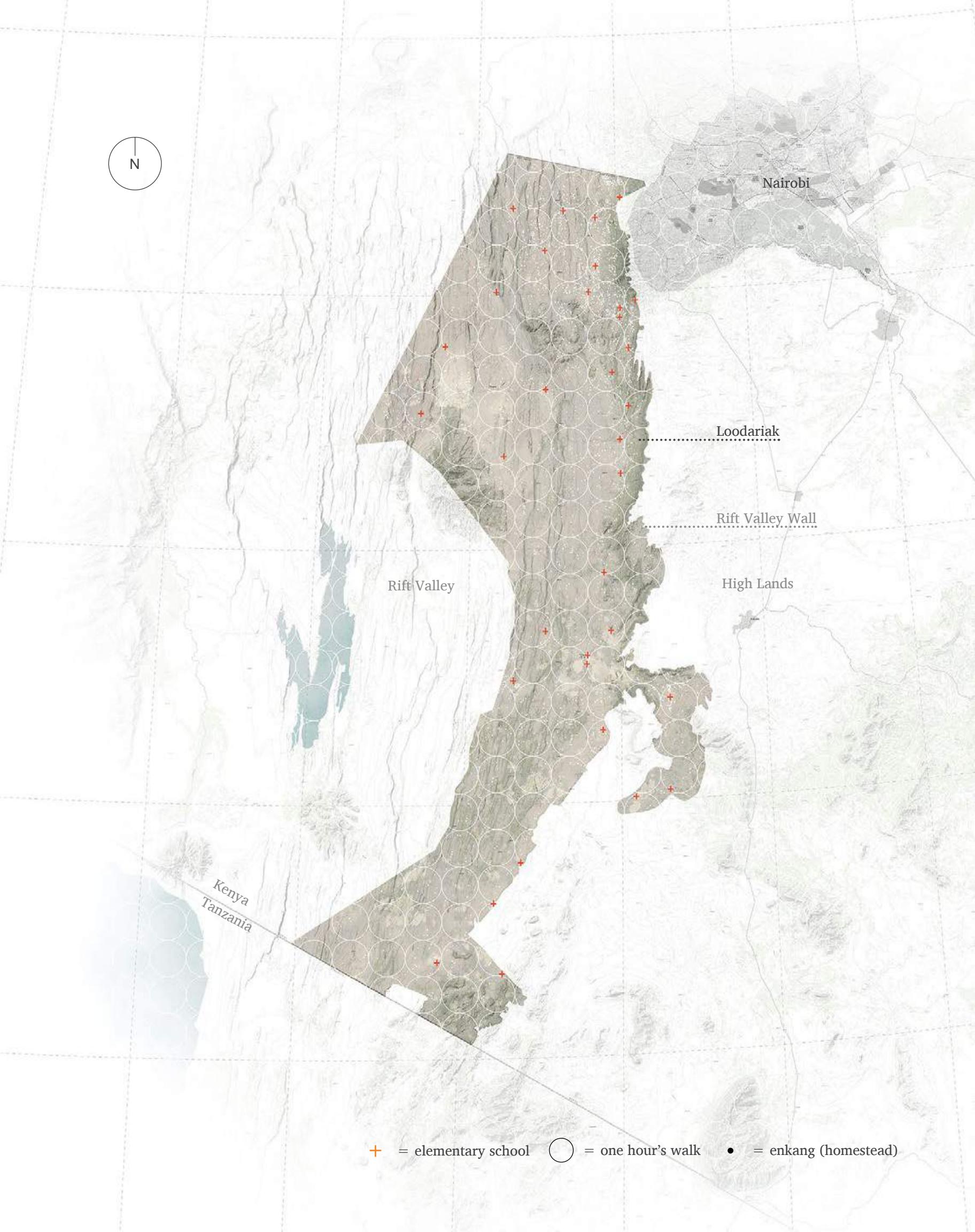


LIVING IN THE MARGINS

Like many pastoralists in the Horn of Africa, the Maasai occupy semi-arid regions peripheral to larger urban areas. Though socially, economically and politically integral to host nations, these regions are often wrongly accused as being uncivilized, lawless, and backwards and in dire need of incorporation, assimilation, and integration.

The large swath of darkened land in the following map highlights the Maasai occupied regions of Torosei, Elangata Ewuas, Kilonito, Oltepesi & Ewuaso Kedong. Within this region, I conducted a series of studies that focused on Maasai architectural diversity, spatial distribution and density of Maasai families, location of schools, fenced in land, instances of possible land privatization, and rural/urban planometric relationships.

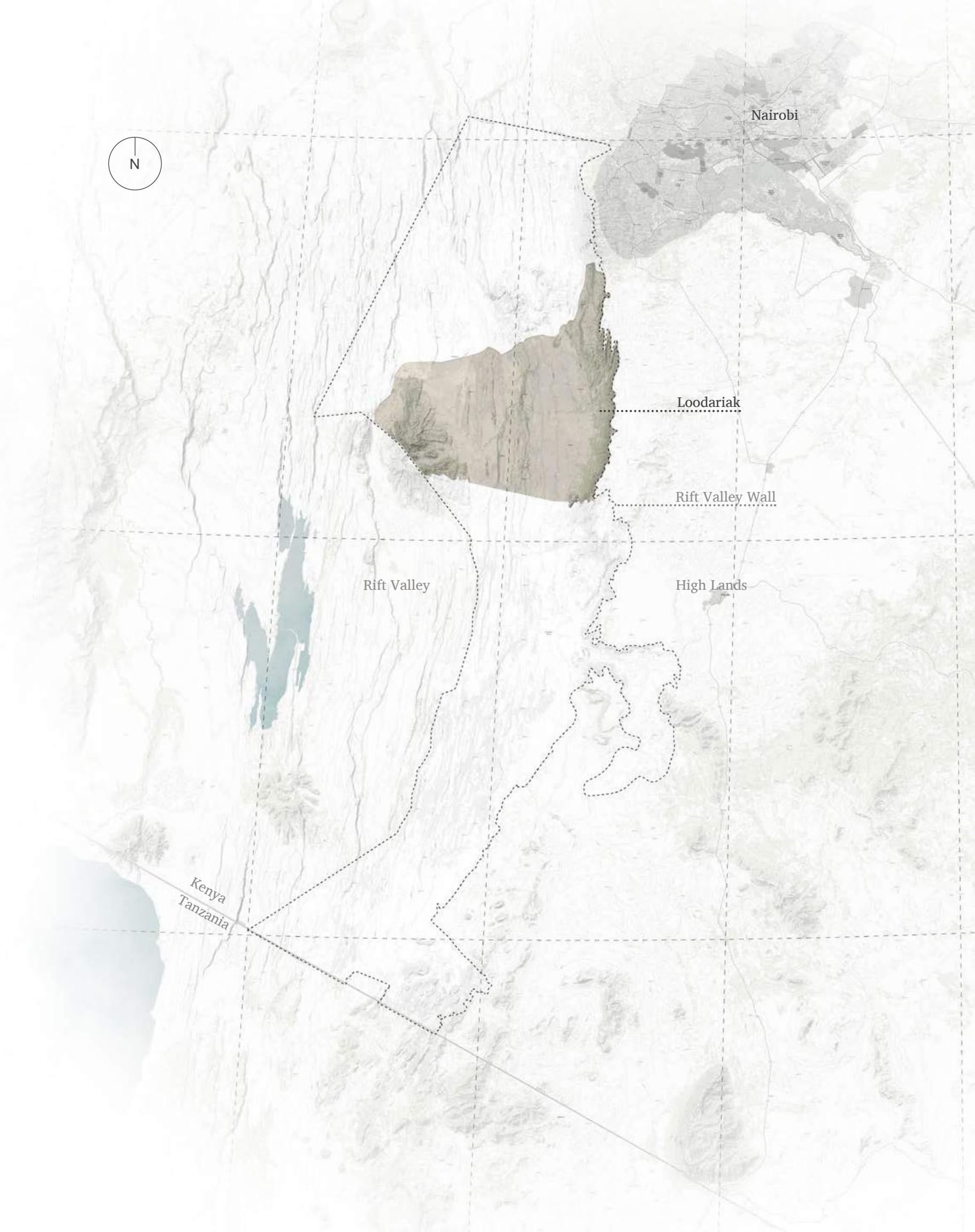
This particular map highlights the location of each individual Maasai Enkang (homestead) within the region and is indicated by a small white dot. The larger white rings indicate the distance one can travel by foot within an hours time. This distance is important to understand as the main mode of transportation in the region is by foot. Finally, the red crosses indicate the location of schools throughout the region. As one can quickly realize, many Maasai homes are located more than three hours walking distance from schools. This distance makes it impossible for many children and youth to receive a proper education.



OLTEPESI

Oltepesi is home to over 7,000 Maasai and is a prime example of pastoral land in the margins. Like others, the county is subjected to countless cases of land grabbing and property disputes, leaving its formerly communal land highly fragmented. With shrinking accessible grazing areas, many Maasai pastoralists have transitioned towards alternative livelihoods.

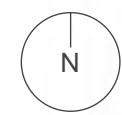
Like the other four regions within the study area, Oltepesi is found within the Great Rift Valley. Along Oltepesi's Eastern edge are the steep mountains sides of the Rift Valley where it begins its dramatic and sudden cut into the Kenyan landscape.



LOCAL COMMUNITY

Though the population of Oltepesi is over 7000, the distribution of Enkangs across its landscape of plateaus, rugged terrain, and open plains is quite sparse. Such low density can be attributed to the Maasai's need for distance and separation in order to prevent overgrazing while herding livestock. In addition, a great deal of land is privatized, further separating families onto their own individual plots. Nevertheless, many Enkangs have gravitated towards major roadways in order to take advantage of their access to important livestock trading markets, cities, and distant fertile grazing lands. Today roadways have become the lifeblood for many as they provide integral goods and services that cannot be locally sourced. In addition they provide a means of herding livestock great distances as much of the surrounding land is fenced.

The following map shows the location of Enkangs within Oltepesi. The concentric rings indicated the time it takes each household to walk to the Maasai Knowledge Exchange.

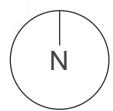


HARDSHIPS & CHALLENGES

Though pastoralism is “the most effective strategy for extracting value out of otherwise marginal land”, the Maasai continue to be subjected to various forms of marginalization. From the colonial days of land appropriation and annexation, a perpetuating degree of separation exists based on distorted perceptions, discriminatory policies, and reduced communication. The map to the right illustrates the amount of fenced land (indicated by the black shapes) that currently exists in Oltepesi. Much of this fenced land is located along the North South roadway that extends through the Eastern portion of Oltepesi and may be indicative of purchased land by non-Maasai developers. Such fencing contributes to the further loss of grazing land and threatens the Maasai’s livelihood and livestock trade network.



image source: <http://maasaimedia.com/2014/11/02/maasai-community-swearstheir-land-must-be-given-back/>



◆ = inaccessible land due to fencing



image source: www.beforethey.com

STEREOTYPES

Since their colonial occupation in the early 20th century, the Maasai have been commonly portrayed as one of the most vocal ethnic groups in Africa to continually oppose modernization. This widespread belief has been reinforced through their romantic depiction in popular film, literature, and images, as a warrior people whose culture

and existence has remained largely unaltered for hundreds of years. As a result, many perceive the Maasai as ethno-cultural curiosity and a society fiercely opposed to participation within contemporary civilization. As a consequence, the Maasai's true nature and involvement within modernity remains largely overlooked and misunderstood.

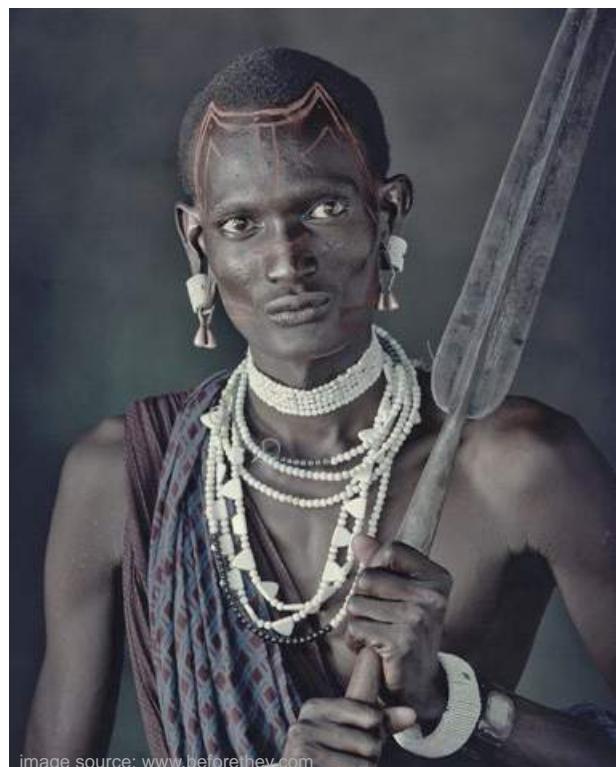


image source: www.beforethey.com

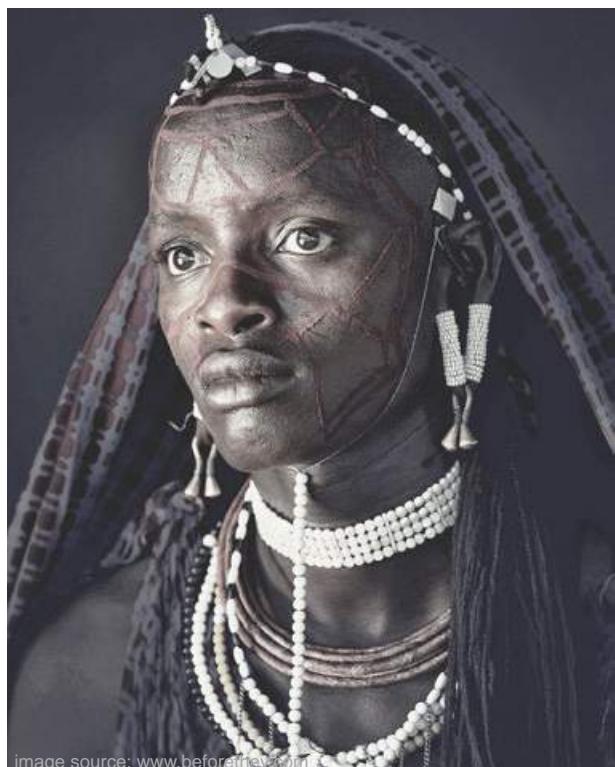
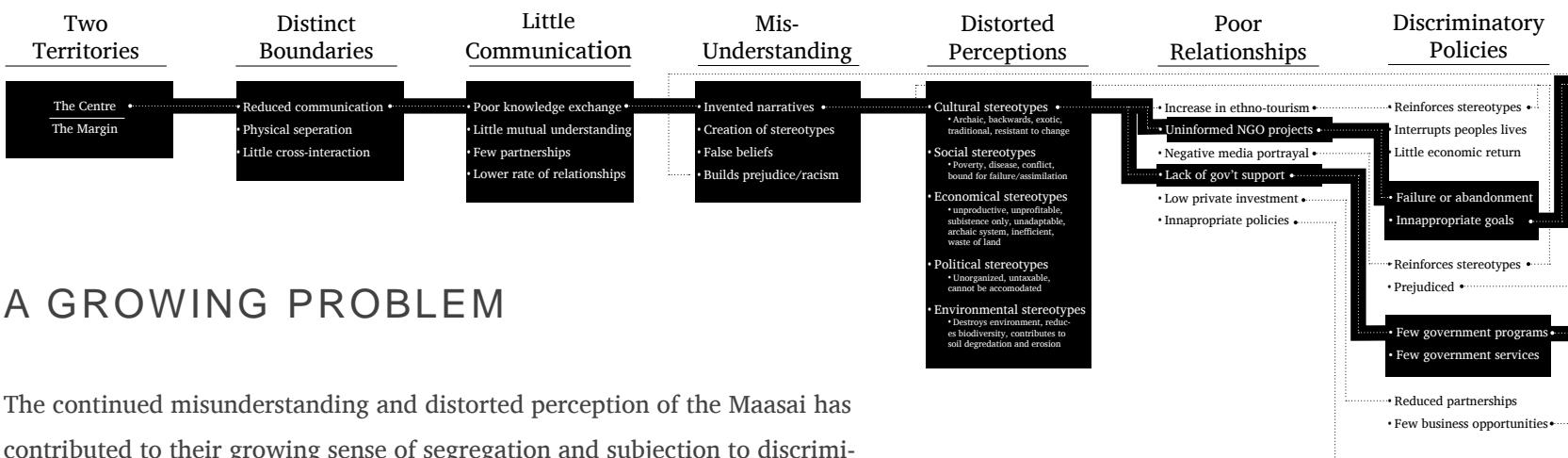
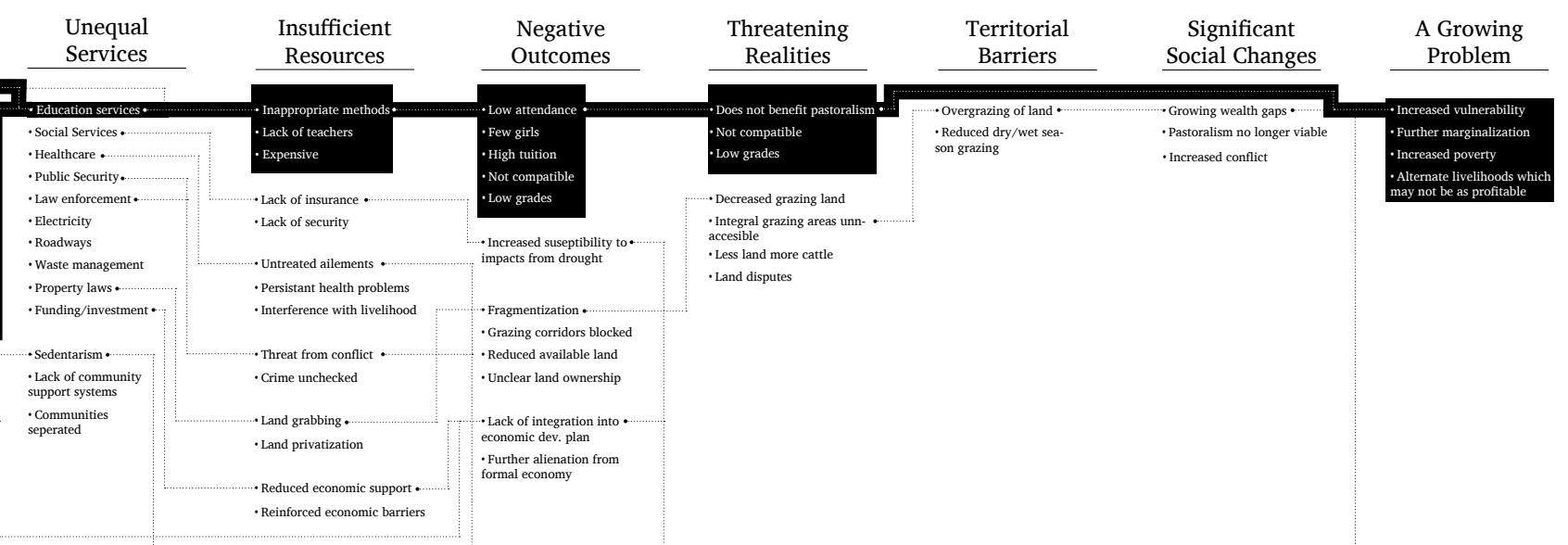


image source: www.beforethey.com



A GROWING PROBLEM

The continued misunderstanding and distorted perception of the Maasai has contributed to their growing sense of segregation and subjection to discriminatory policies, unequal services, and insufficient resources. To address these issues, better communication with and respect of the Maasai must be achieved.



PASTORALISM

Pastoralism is a common worldwide method of animal husbandry that involves the herding of livestock throughout natural and open grazeland. By moving from one grazing area to the next, pastoralism allows grazed land to rejuvenate overtime until it is used again in the future. This sustainable practice allows pastoralism to be the most ideal method of animal husbandry in semi-arid regions where resources are scarce and droughts are common. With over 25% of the world's land being used for grazing, and producing 10% of the world's meat used for human consumption, pastoralism is an essential industry that drives countless economies, cultures, and societies.

The Maasai are one of East Africa's many pastoral people, and like all others, are closely tied to their animals. However, the Maasai's livestock of cattle, goats and sheep are used for more than just personal sustenance, but also as local currency, for national and international trade, and as a marker of social standing, wealth, and power.



Pastoralists Around the World







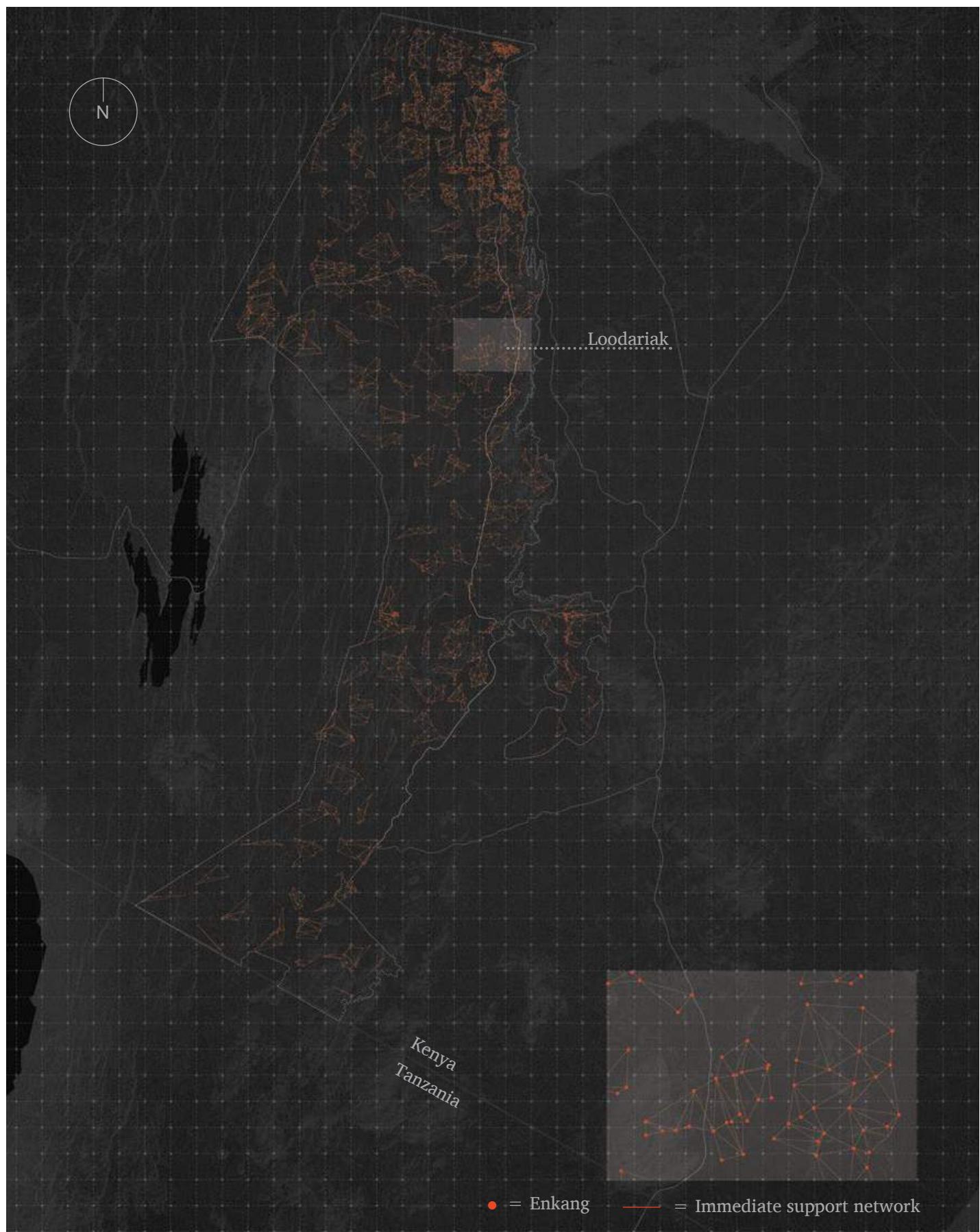
A VITAL TRADE NETWORK

Counter to common stereotypes, the pastoralist sector is an essential and significant contributor to Kenya's economy and GDP and should be supported and respected. Their sustainable use of resource poor land, adaptive trade network, ability to operate across invisible borders, and ecological and territorial knowledge are integral factors that contribute to its success. The following map illustrates the complex livestock trade network that the Maasai are an integral part of. Responding to both increases and decreases in supply and demand; the Maasai are tied extremely closely to the Kenyan and International economy. As Kenya's main source of beef, the Maasai contribute 300 million dollars yearly towards the countries GDP.



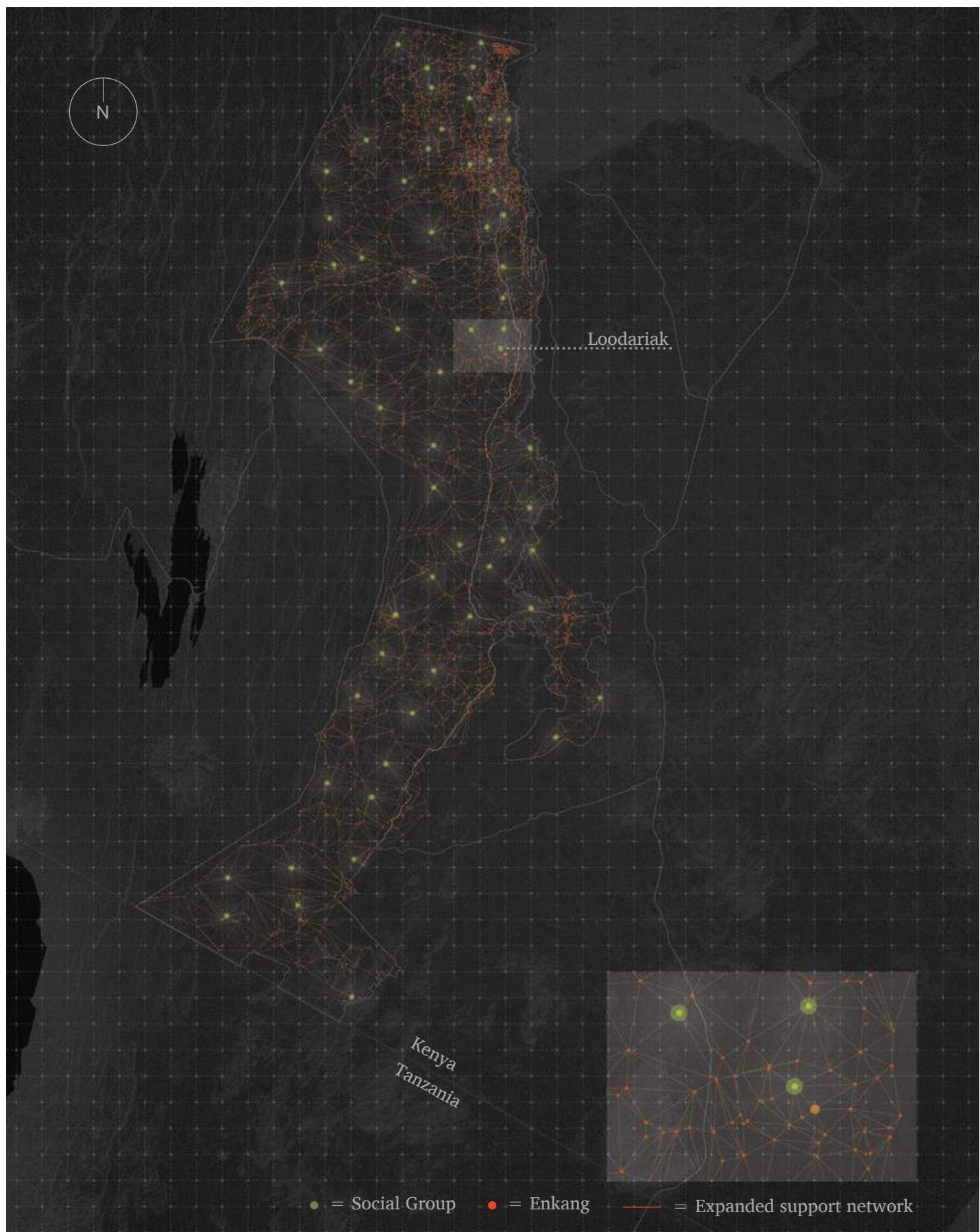
NETWORK LIMITATIONS

Though the Maasai had a wide and complex social and support network, access to it was dependent on foot travel and direct encounters. As a result, families lived in close proximity to each other so as to foster friendship, social circles, and support during times of hardship and drought.



NETWORK OPPORTUNITIES

The introduction of motorized travel, mobile phones, and Internet access has widened the Maasai's support and social networks. These new network has helped strengthen, expand, and connect a growing number of civic and social groups that have arisen to combat new challenges.



PERI-URBANISM IN KENYA



ITS EFFECT ON THE MAASAI

Peri-urbanisation is occurring at a staggering rate across Kenya. With a growing middle class and foreign investment, an increasingly large number of Kenyans are looking to buy land as an investment opportunity. Unlike suburban sprawl that is planned and continuous expansion outwards from a city's core, peri-urbanization occurs sporadically, creating a hybrid rural/urban landscape. In Africa, peri-urbanisation is commonly fuelled by land speculation, and often outpaces official planning and the construction of the proper infrastructure needed for responsible and successful urban expansion. As a result, poorly constructed and unregulated urban environments appear seemingly overnight by contractors and developers who are merely trying to turn a profit at the expense of the existing community or client. This rapid development has been linked to increases in pollution, chaotic urban growth, increases in crime and disease, and the assimilation of local ethnic groups into urban culture.

Though located in a seemingly remote location within the Great Rift Valley and only accessible by a single dirt road, Loodariak is in fact much closer to dense urban areas than one may expect. It is in fact only a short forty-five minute drive to the closest major urban centre of Kiserian and within ten or so minutes of the latest real estate purchase by a non-Maasai developer.

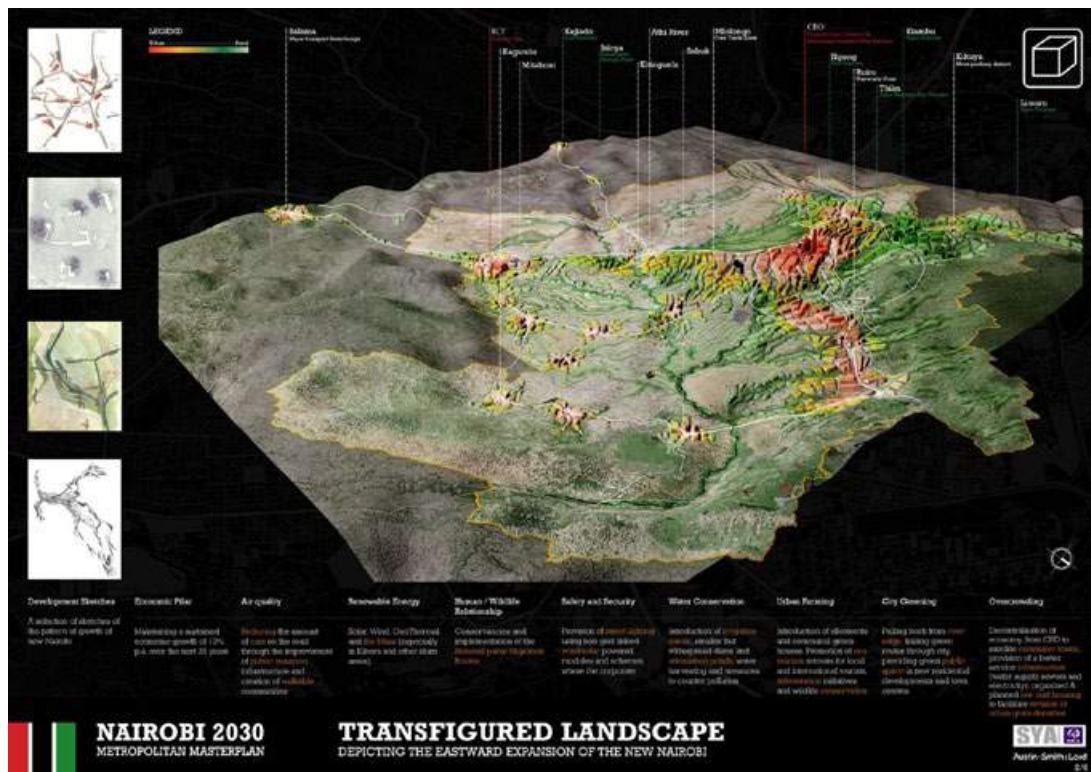


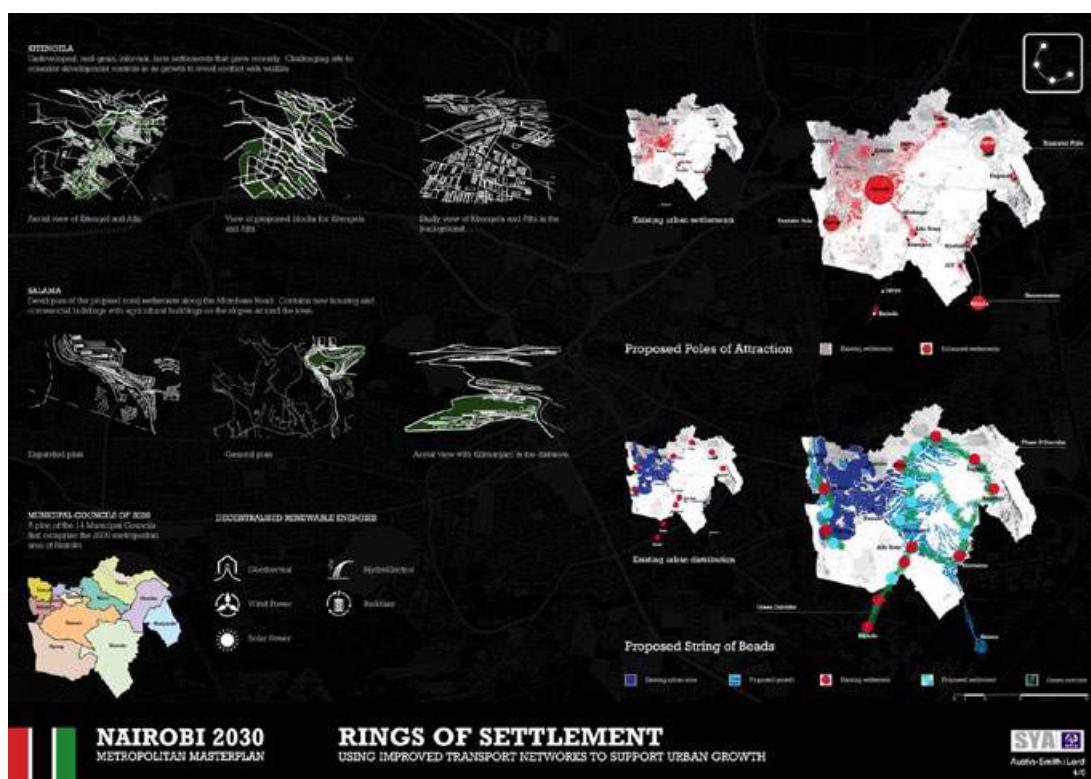
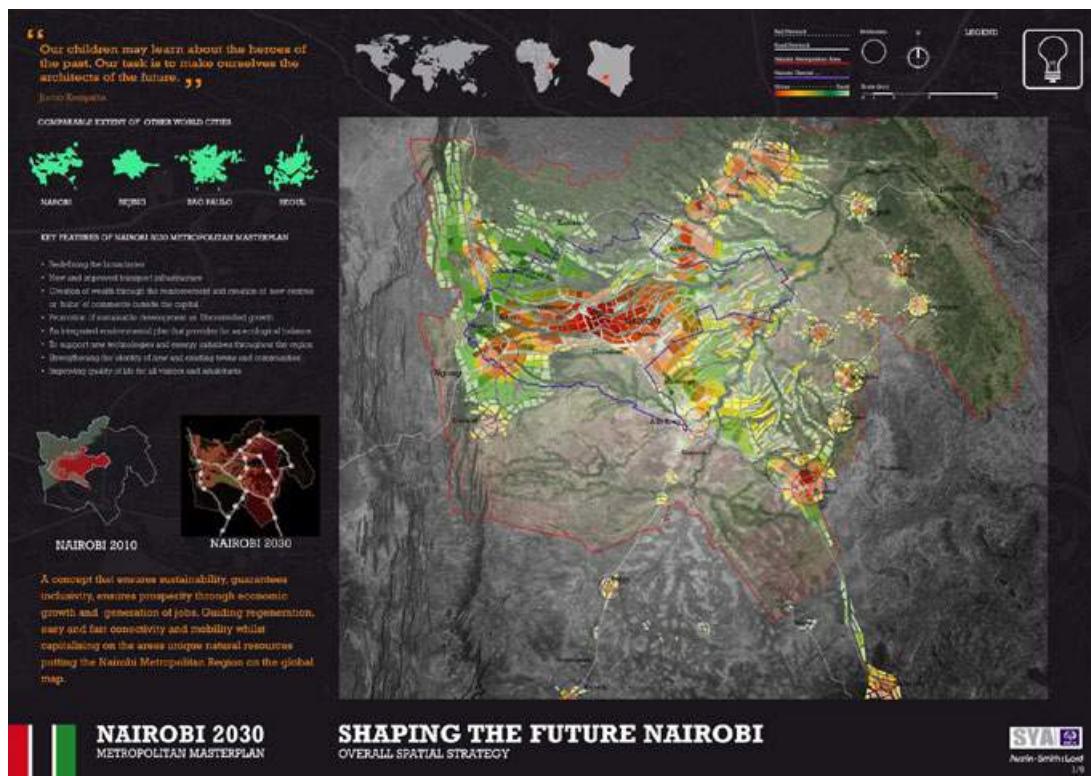


KENYA VISION 2030

Kenya Vision 2030 is a nation wide economic plan that “aims to transform Kenya into a newly industrializing “middle income” country providing a high quality of life to all it’s citizens by the year 2030.” This plan is built on three pillars - an economic pillar which aims to sustain a GDP growth of 10% for the next 25 years, a social pillar which aims to create a clean and secure environment and develop its various social programs, and a political pillar which aims to create a issue based, people centered, result-driven and accountable government.

These pillars have been the driving force behind the huge amount of rural development that has been occurring across Maasai occupied land. From infrastructure development which includes the creation of new roadways, railways and communication networks and land reforms that aim to connect the country and prevent any place from being called “rural”, to increased agricultural investment to transform unused land into farmland. Kenya Vision 2030 is, and will continue to have, a huge impact on the Maasai who rely on undeveloped grazing land for not only their own survival, but the survival of their culture and integral livestock industry.







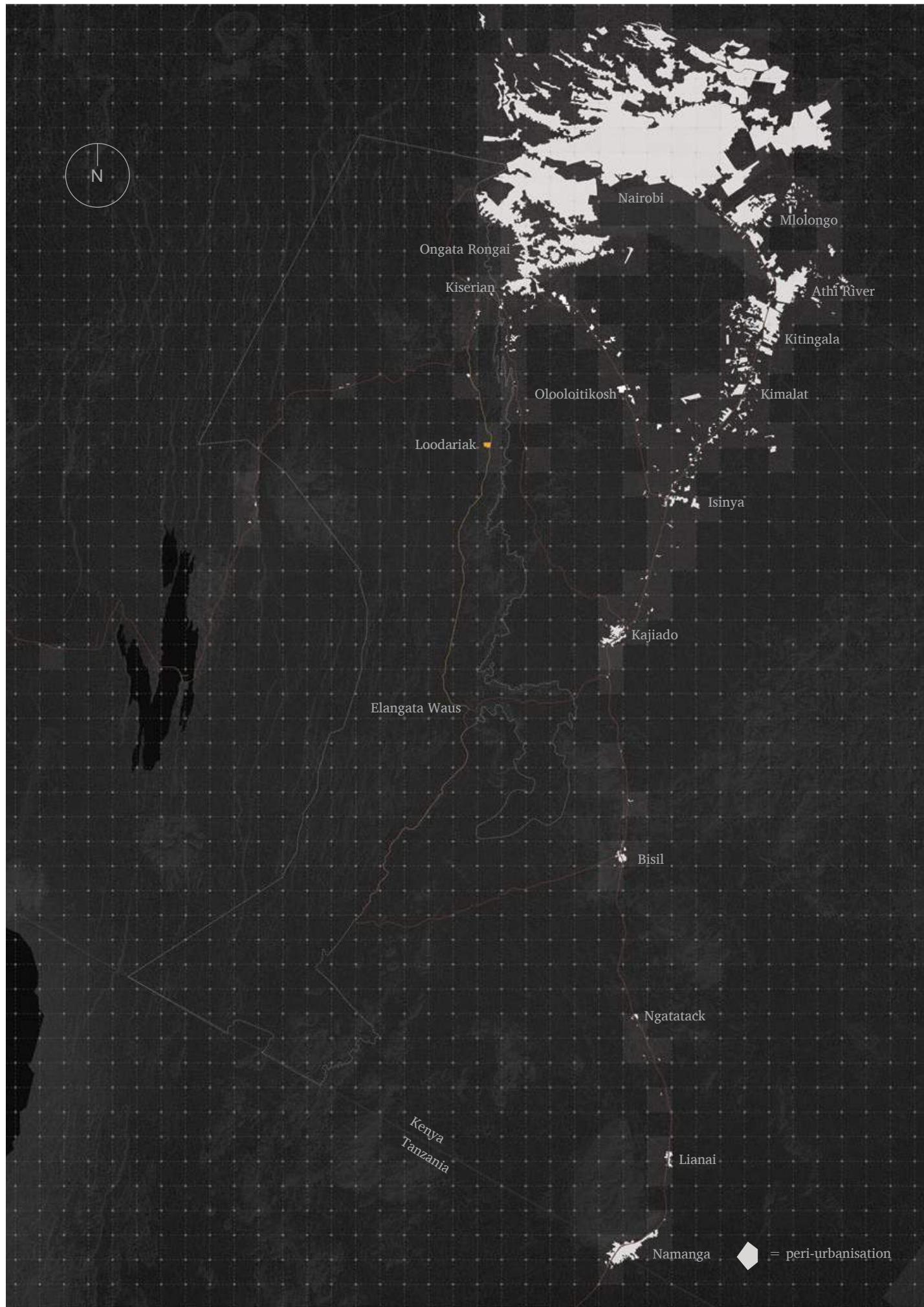
REAL ESTATE BOOM

Due to Loodariak's close proximity to Nairobi, an increasing number of developers and non-Maasai are looking to buy and invest in Maasai land with hopes of making a profit. Though many Maasai do sell their land legally, many others are forced off of their land due to shady deals, lack of official land-rights documentation, and other under-the-table agreements. By simply delineating the property lines of a plot in Loodariak with fencing, a developer can easily sell Maasai land for double its value.



PERI-URBANISATION IN ACTION

Now classified as a low-middle income country, Kenya has the 4th largest economy in Africa and is considered a major powerhouse on the continent. As a result a huge amount of investment is being poured into land speculation, leading to an unprecedented level of peri-urbanisation across the country. In the accompanying illustration, urban zones are represented in white and can be seen spreading outward from Nairobi along major roadways. The roadway extending southwards from the lower Southeast corner of Nairobi towards the Kenya/Tanzania border is the Nairobi - Namanga highway. Today, virtually all of the land on either side of this highway has been bought by investors and has resulted in a series of towns appearing virtually overnight. Loodariak is located along a similar North-South roadway, but due to its indirect route towards larger urban centres and the Tanzanian border, it has not yet been used as a major roadway or trade route. However, due to its proximity to Nairobi and Kiserian to the North and the town of Kajiado to the Southeast, it has already been seen as a potential site for development by many investors. Already, much of the land around the roadway leading to Loodariak has been bought by non-Maasai, developed into farms and country houses, or just left vacant to be sold at a profit at a later time.



TOWN “X”

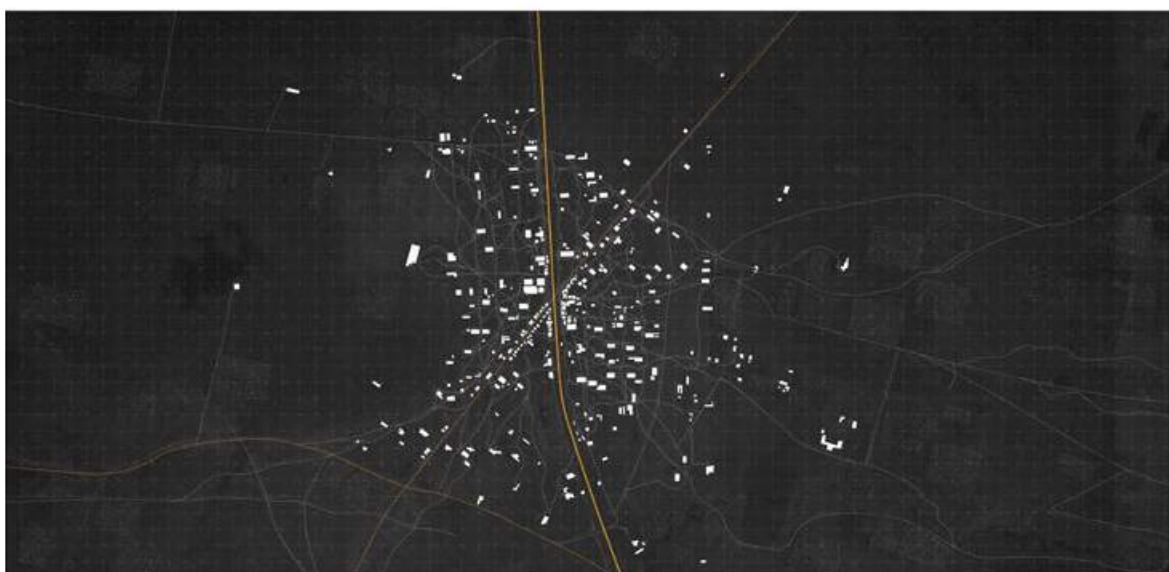
Town is “X” is one such town that appeared out of nowhere within a relatively short period of time. Centered around a cross road just South of Nairobi along the Nairobi-Namanga highway, town “X” began as a lonely and vacant intersection and rapidly expanded into an unplanned, unregulated, and dense urban centre. This type of rapid and chaotic urban expansion is occurring around major cities all over the country, and may one day occur in Loodariak if left unchecked. Though investment in land and peri-urbanisation is economically beneficial to the country, it is in fact disastrous to the local Maasai population that it has replaced. It not only threatens their livelihood through the loss of grazing land, but breaks down traditional social structures, interrupts customary land tenure, and threatens to absorb the local population and culture.



2003



2010



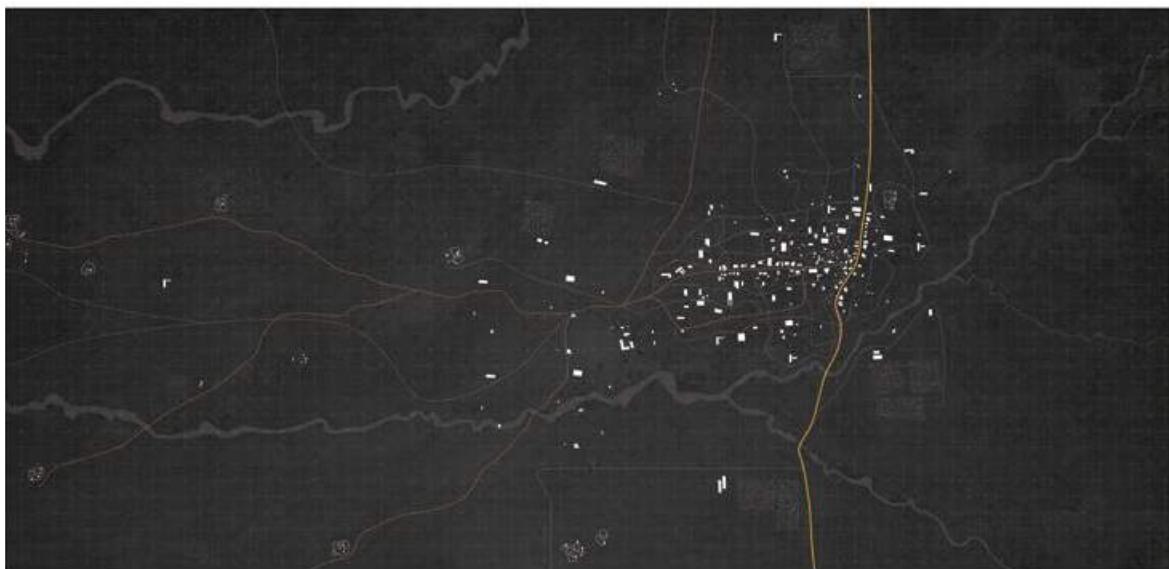
2015

LOODARIAK'S FUTURE?

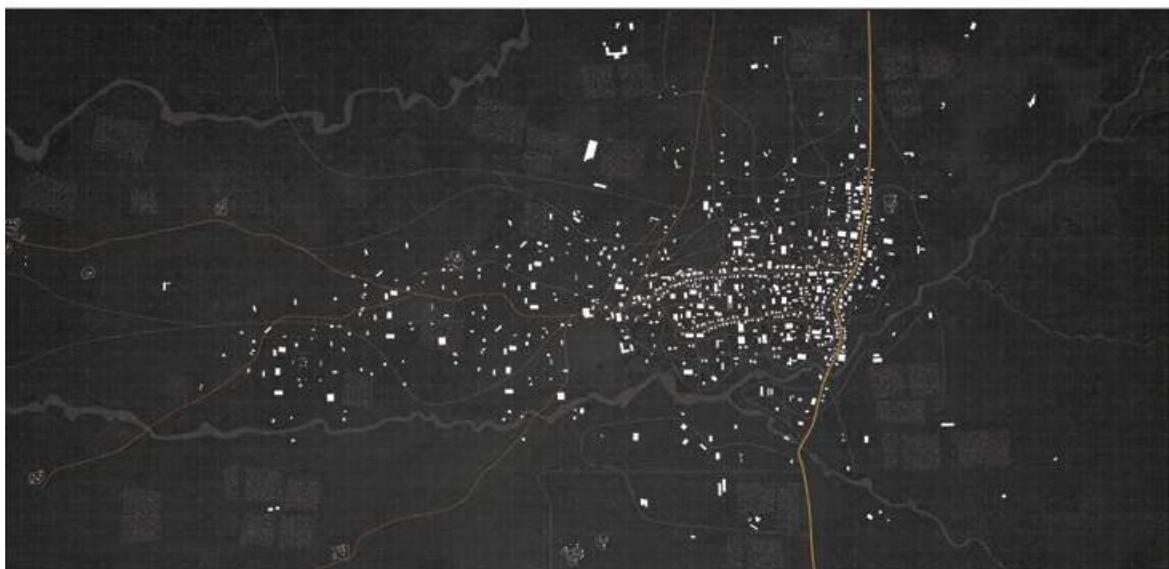
If peri-urbanisation is left unchecked, what would Loodariak look like in 5 years? In 10 years? Though this is only hypothetical, the threats of this occurring are quite real. By providing proper meeting spaces, access to technology, and a place to gather, foster and spread their influence, the Maasai will have the opportunity to address this problem and take control of the future and destiny of Loodariak.



2015



2020



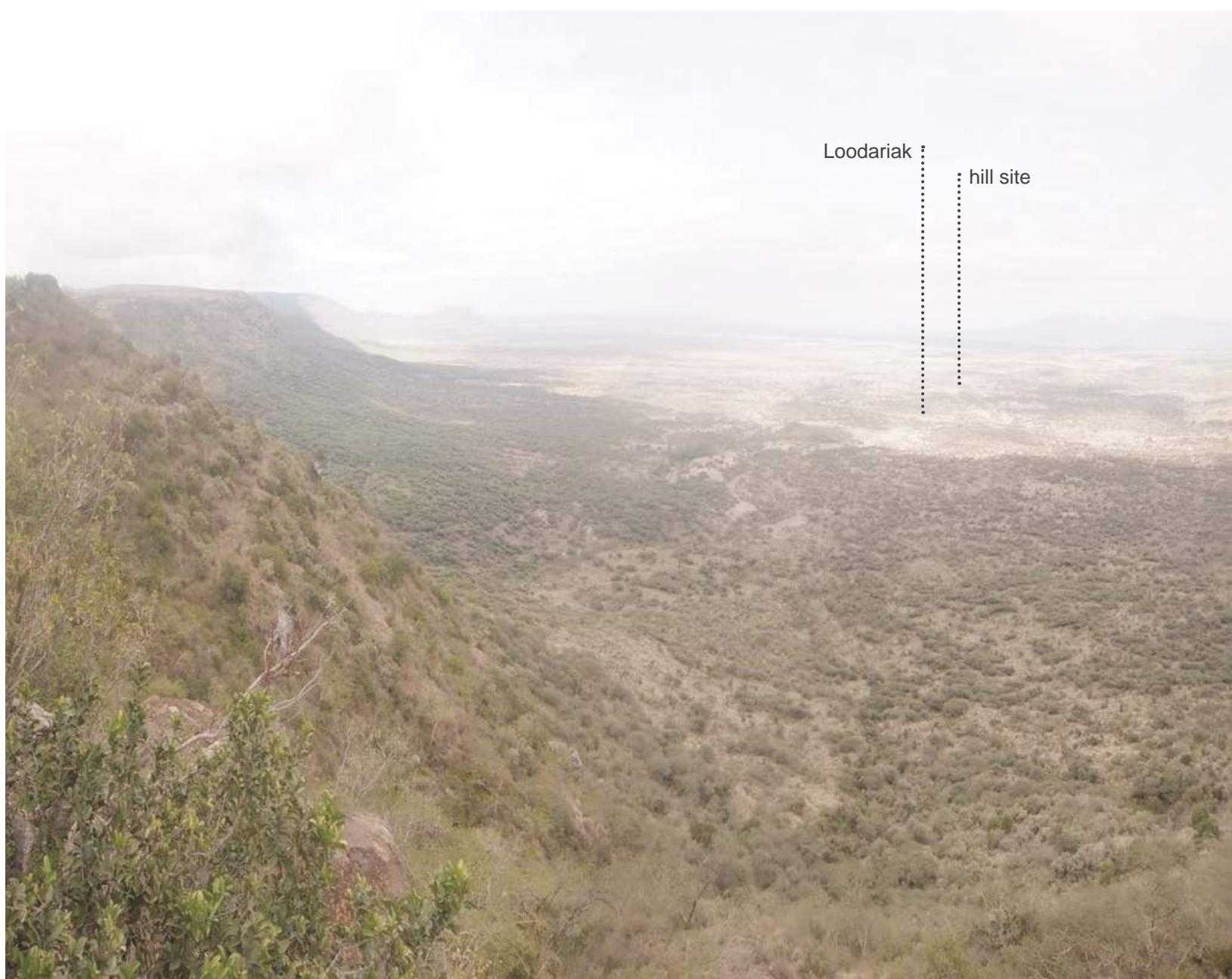
2025

LOODARIAK 2025?





SITE



LOODARIAK TODAY







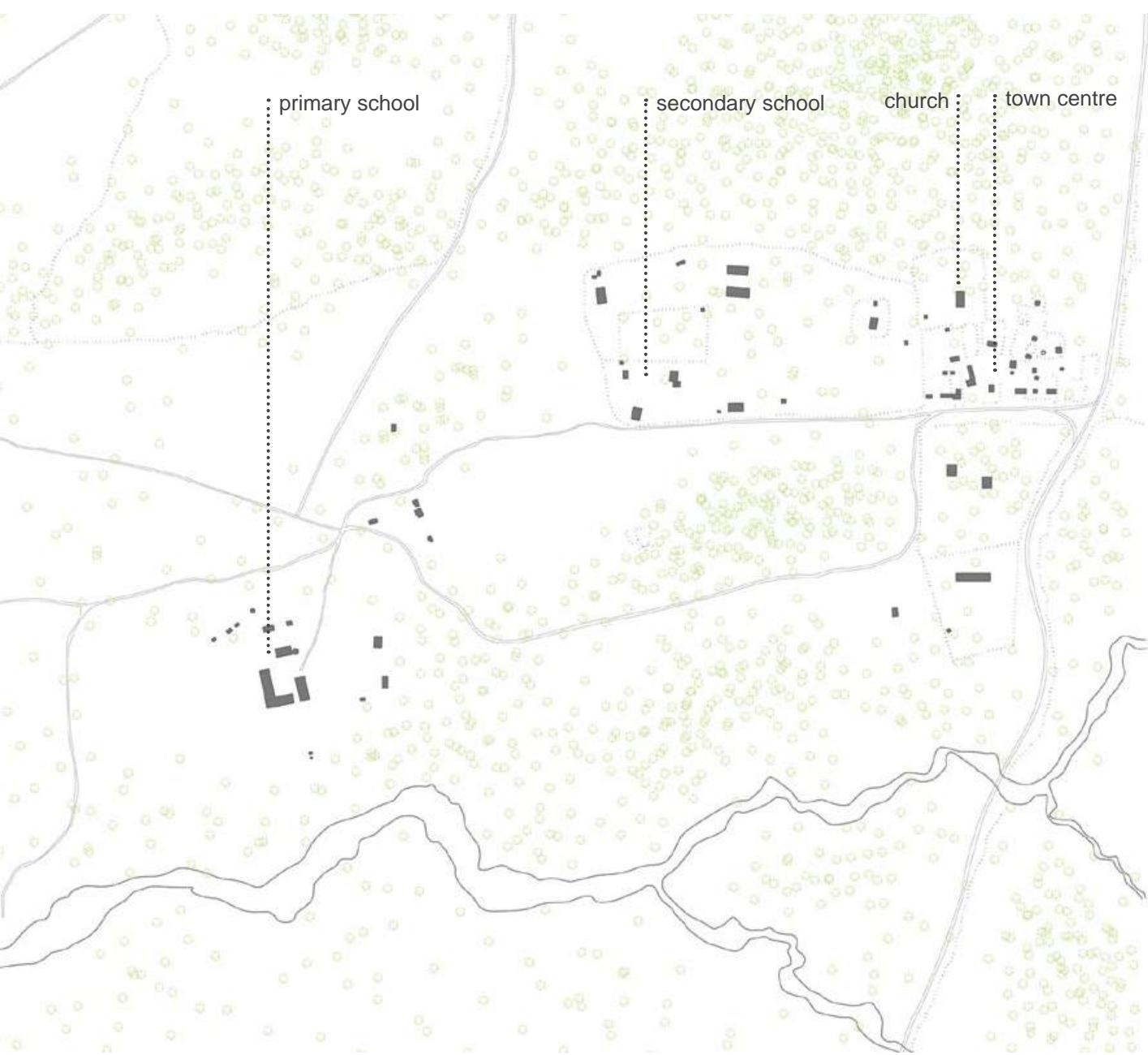
LANDSCAPE

The landscape surrounding Loodariak features a collection of riverbeds, gently rolling hills, and rugged cliffs of the Great Rift Valley. Views of ancient volcanoes beyond dot the horizon.



LOODARIAK

Though very small in size and with only a few buildings, Loodariak's town centre is an extremely important asset to the local population. Within its limited boundaries is a primary school, a secondary school, a church, a couple stores, and a local town restaurant and small meeting room that hosts Loodariak's only television. Though electricity was introduced last year, it has only been hooked up to the church so far.









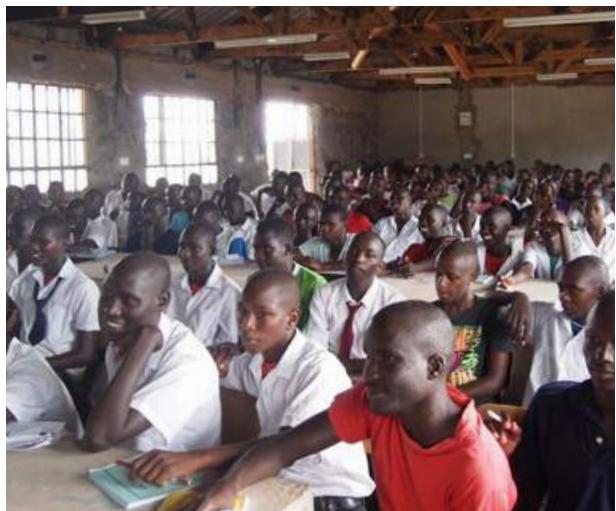
primary school



secondary school principle office



town centre



TOWN

The town centre of Loodariak is an essential part of the local populations well being. As the church, stores, primary and secondary schools are the only ones within miles, the Maasai congregate within its centre in order to access these services, conduct business, and socialize with others.







photo taken by Ameena Bajar



photo taken by Ameena Bajar



THE HILL

The Maasai Knowledge Exchange sits atop of a gently rolling hill located on a sprawling plateau at the base of the Great Rift Valley wall. From this position, the campus has a commanding 360-degree view of the surrounding rugged landscape of acacia trees, ancient volcanoes and open stretches of grassland. Though located outside of Loodariak, the Maasai Knowledge Exchange is only a short ten-minute walk away. This distance provides ample exposure to the natural environment before the campus begins to slowly reveal itself from behind the trees.









FINAL DESIGN

THE MAASAI KNOWLEDGE EXCHANGE

The Maasai Knowledge exchange is a campus for ideas, entrepreneurship and education. Its intention is not to provide solutions for problems, but to provide a place for solutions to be made. It is a place for meetings, discussions and debates, and a hub for creating, fostering and spreading new ideas and meaningful support. By incorporating multiple public and private meeting rooms, a computer lab, library, and flexible indoor and outdoor areas, the campus intends to provide the necessary spaces and tools to achieve these goals. The campus will also be a place for gathering, celebration, and festivities, therefore reinforcing the importance and power of community, solidarity, and union.

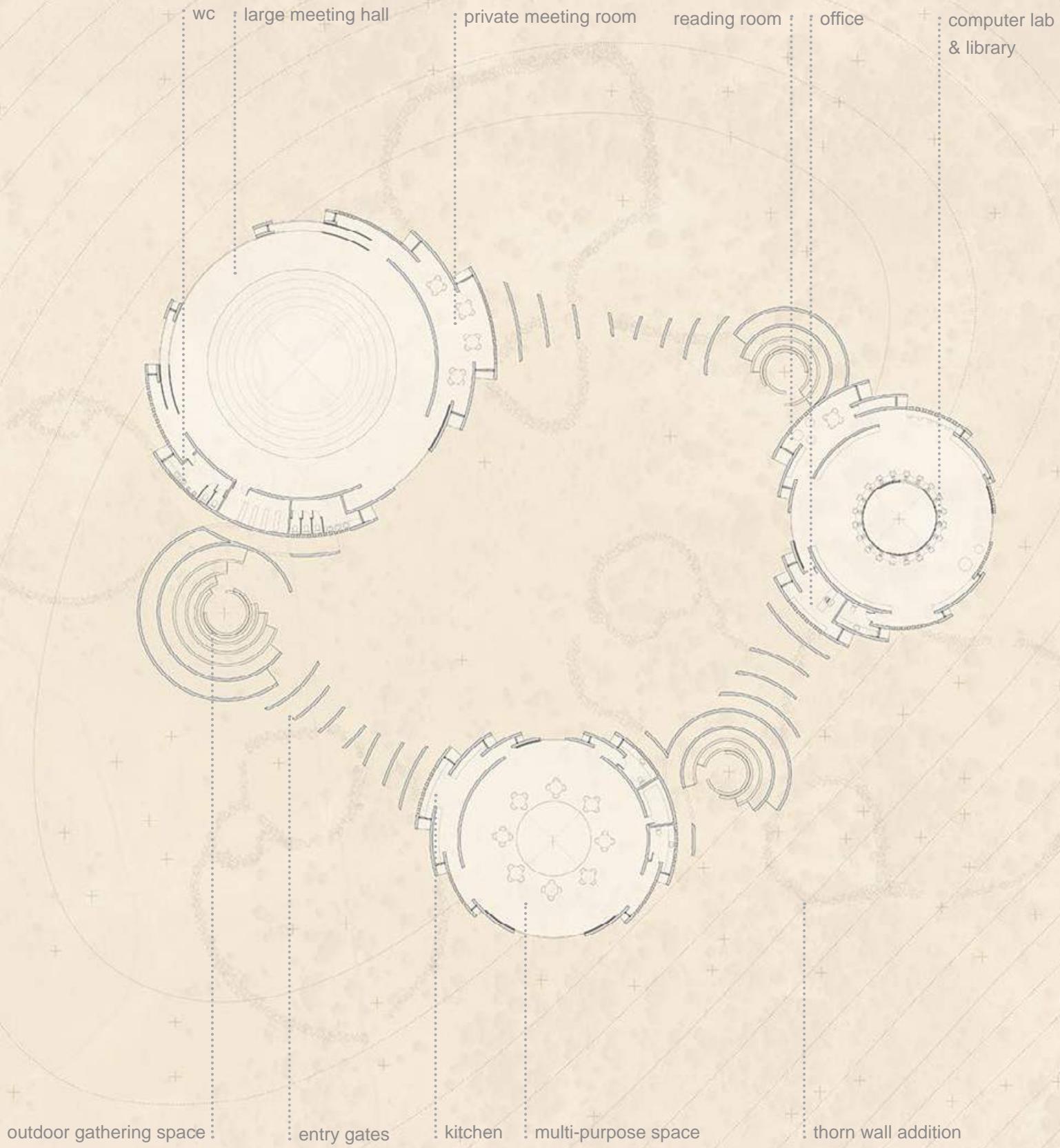
Designed around the idea of expansion and flexibility, the Exchange incorporates a wall system that flows throughout the entirety of the campus. Transforming between permeable walls that allow for spontaneous expansion, to wrapping, encircling and creating interior space, the wall system is meant to represent a collision between contemporary architectural design and traditional Maasai ingenuity and knowledge. The result of this collision is a contemporary campus that presents the Maasai's integral position, importance, and power within Kenyan society to the world.





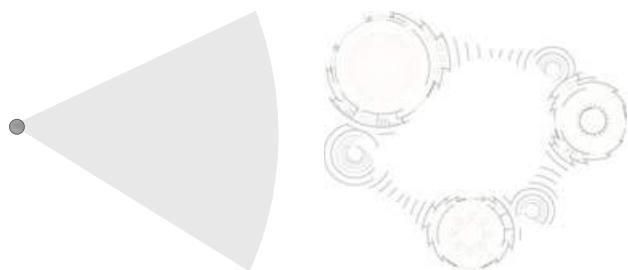
FLOOR PLAN

The architecture of the Maasai Knowledge Exchange materializes through the use of a flexible wall system. Like the Maasai Enkang, this wall system territorializes space through its language of wrapping, curving, and encircling. By incorporating this method, three main hubs were created by encircling the wall system around three large existing Acacia trees. These three hubs include the main parliament, the communication lab, and the multi-purpose space. Within each hub is the acacia tree that occupies its inner courtyard and provides both shade and contrast to the contemporary nature of the campus's interior. In addition, each hub has a corresponding outdoor meeting area that provides additional space for gathering and relaxation. These outdoor meeting areas contain water tanks, utility and storage spaces below. To connect these hubs, the wall system pulls back from the hub and stretches across the open landscape towards the opposite hub. This stretching and pulling of the wall is reflected in its shortened and interrupted physical form, and results in a permeable wall. As a result, traditional Maasai thorn enclosures can be added to this permeable zone in order to create additional space to the exterior or interior of the campus. This flexibility allows the Maasai Knowledge Exchange to take on infinite forms through its modification and evolution over time to meet the demands of changing program, activities and uses. Such modification is imperative as it allows the Maasai to have complete control over the design and use of the outdoor areas of the campus. By providing this flexibility, the Maasai themselves become the architects of their own space, giving them the power to use and modify the space in whatever way they please.



DISTANT APPROACH

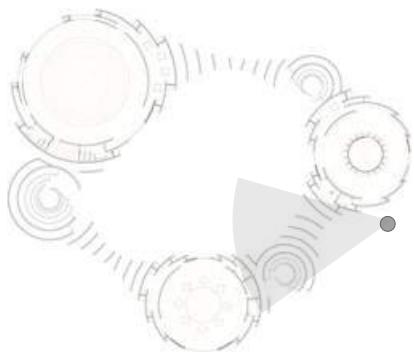
When approaching the Maasai Knowledge Exchange, visitors will be aware of its presence only when very close. The design of the centre was meant to enhance the natural environment rather than compete with it. By using local stone and taking cues from the low slung acacia trees and infinitely horizontal territory, the form and language of the campus was meant to seamlessly integrate with its surroundings yet remain highly contemporary in nature.

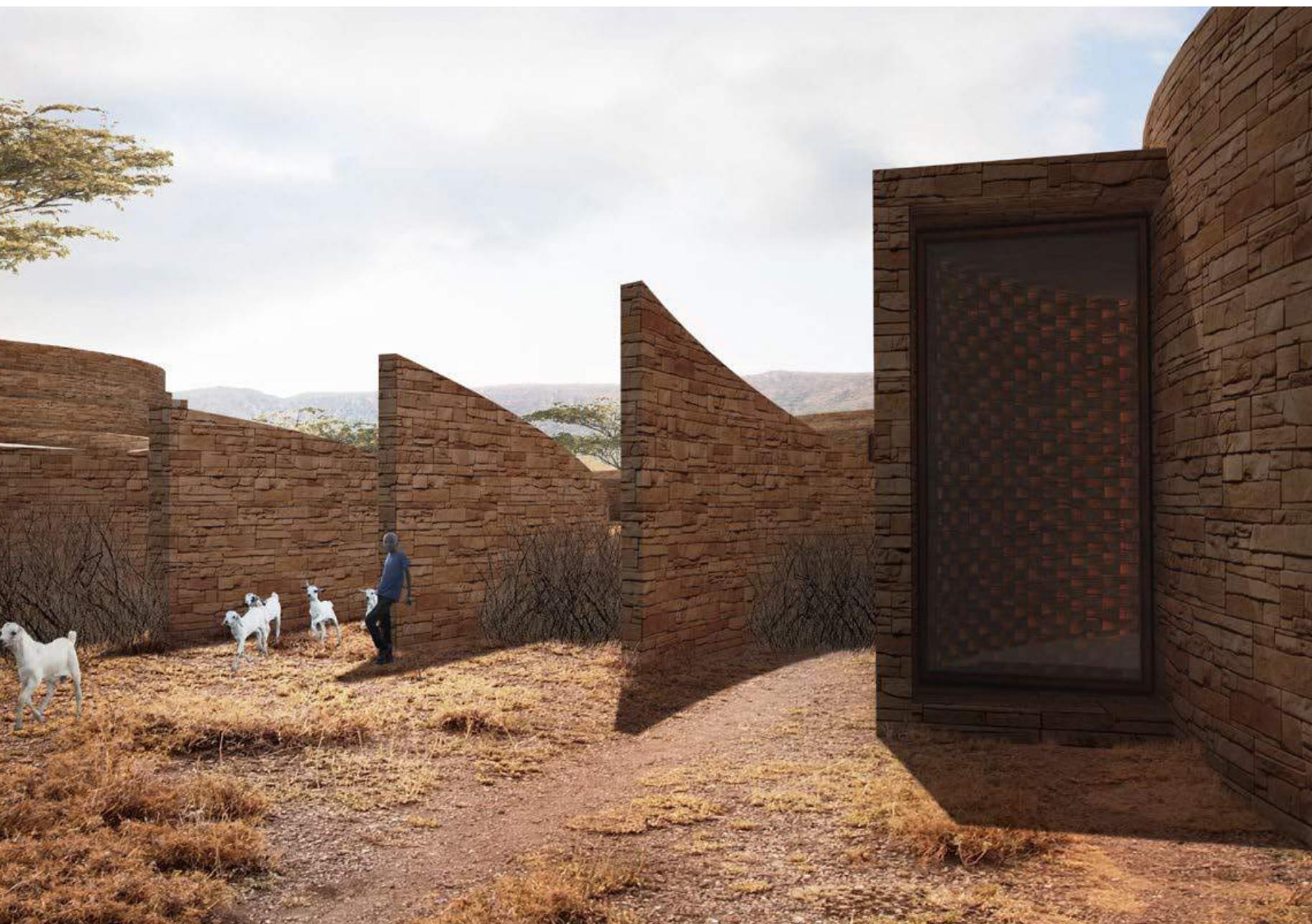




ENTRY GATES

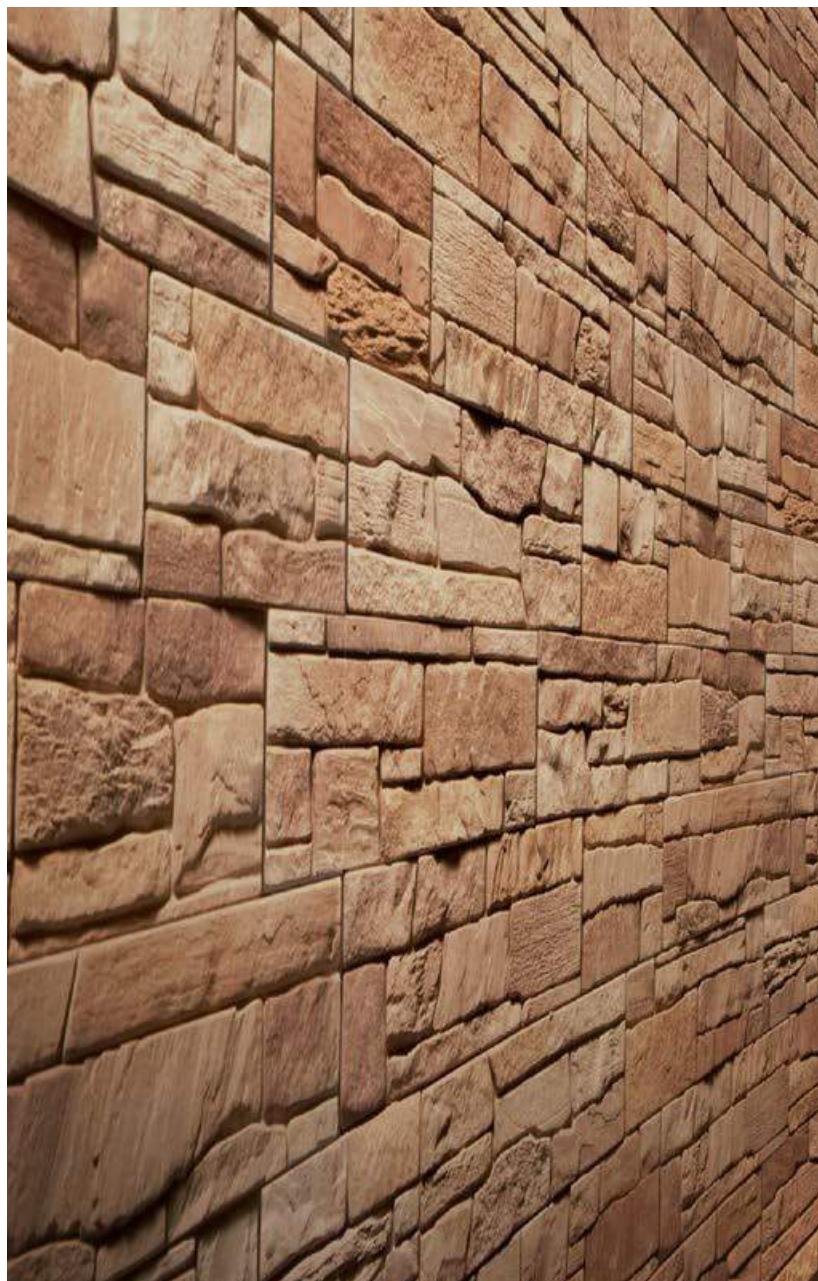
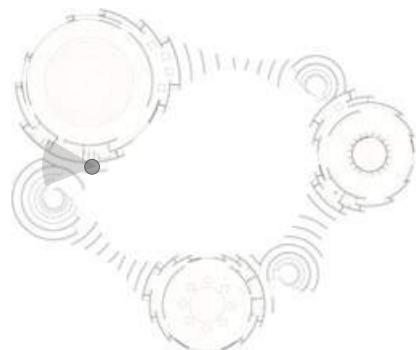
When approaching the gates of the campus, visitors may come upon various Maasai alterations and additions. The following view showcases a Maasai livestock enclosure that has been added to the permeable wall system. Such flexibility allows the Maasai Knowledge Exchange to incorporate a wide variety of transitioning and flexible programs, a feature that would not have been possible in a standard, rigid and restrictive building.

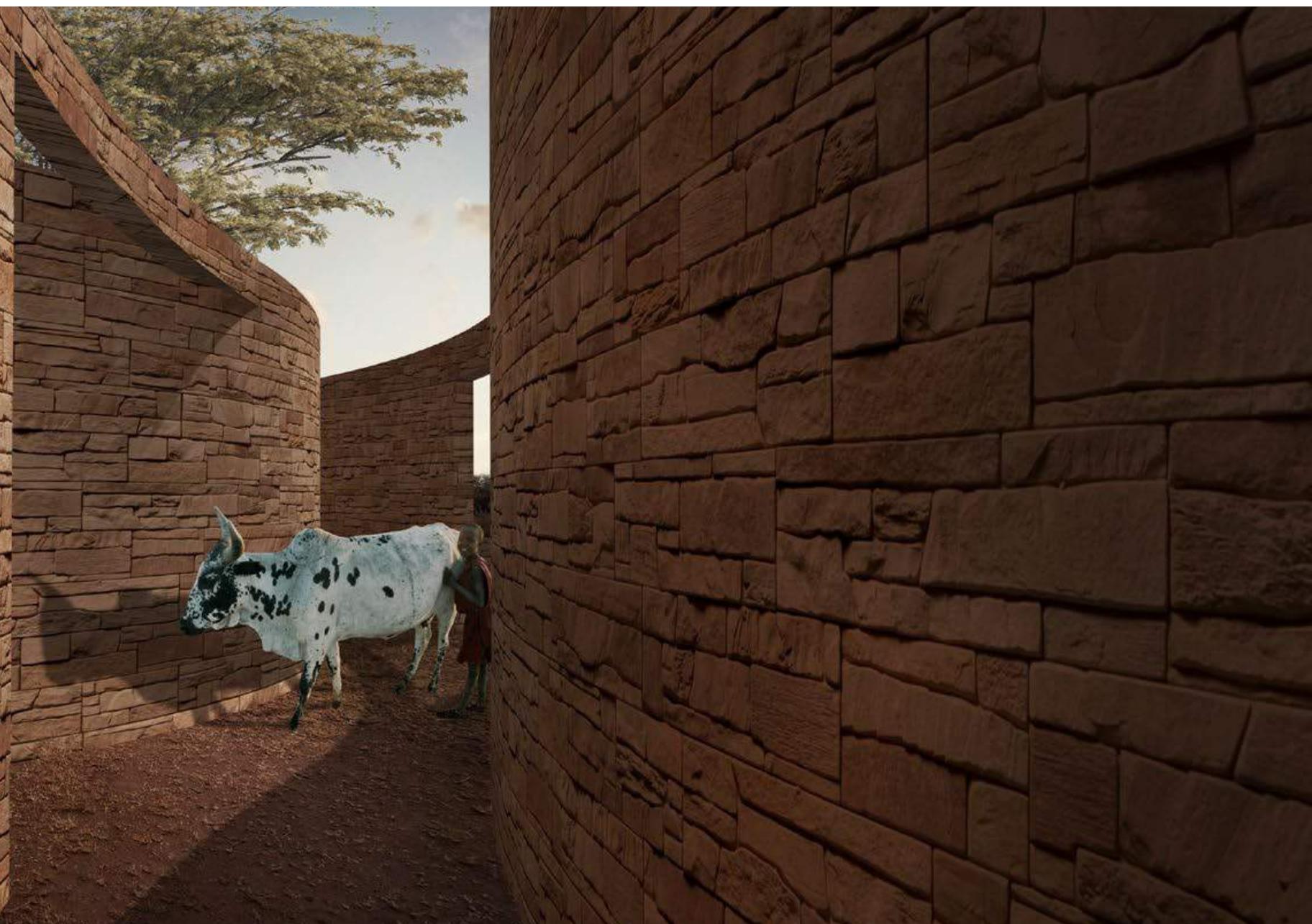




ENTRY PASSAGE

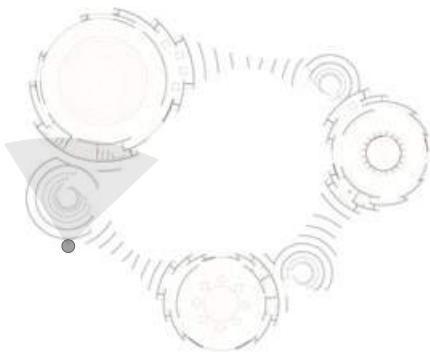
When transitioning between the wilderness and domesticated interior, the fluctuating walls of the Maasai Knowledge Exchange mimic the traditional enkang and provide unique moments of calm and tranquility. By framing the sky and glimpses of the environment beyond, one becomes lost in its winding pathways of earth, stone and sky.





OUTDOOR SPACES

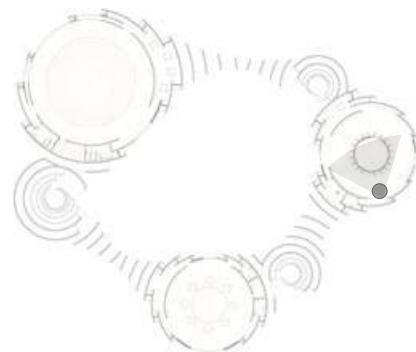
As walls transition from gateways to buildings, a curving amphitheaters area is created and provides areas of relaxation, contemplation and socialization. Shaded beneath existing acacia trees, these spaces also provide rooftop access, allowing visitors to have a full 360-degree view of their surrounding territory. Beneath these spaces are water tanks, utility spaces, and storage areas.





COMPUTER LAB & LIBRARY

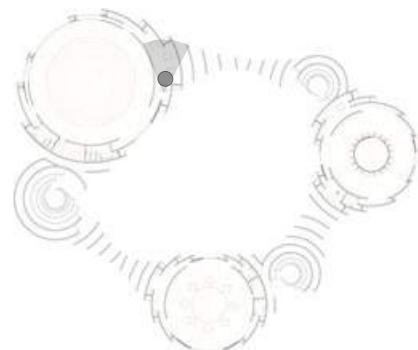
The computer lab and library provides individuals and groups with the necessary tools to obtain, exchange, and distribute knowledge, ideas, and support. In addition, the lab will provide the Maasai with the necessary skills needed to succeed within the rapidly transitioning and contemporary realities of present day Kenya.





PRIVATE MEETING SPACE

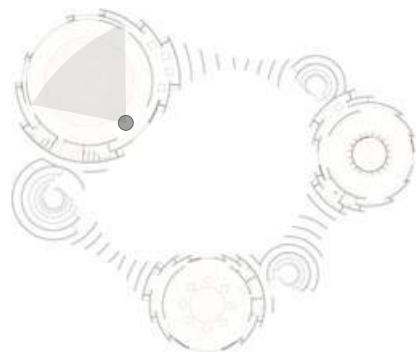
The campus also provides multiple private spaces for individuals and groups. These unprogrammed areas can be used and modified in whatever way suits the users needs. In addition, the low ceiling, thick stonewalls, and ample indirect day lighting through operable windows provides a well-lit, ventilated and cool interior space.





LARGE MEETING SPACE

The largest meeting space in the Maasai Knowledge Exchange is a 400-person amphitheater that makes up the heart of the campus. This semi-outdoor area provides the necessary shaded space to accommodate large village wide meetings, discussions and debates. As groups of this size had virtually no sheltered area to meet in before, this space is one of the most essential components of the campus. By providing inspiring and incredible views of the landscape beyond, the Maasai will now have a central location to discuss the most vital issues that effect their immense and stunning territory and culture.

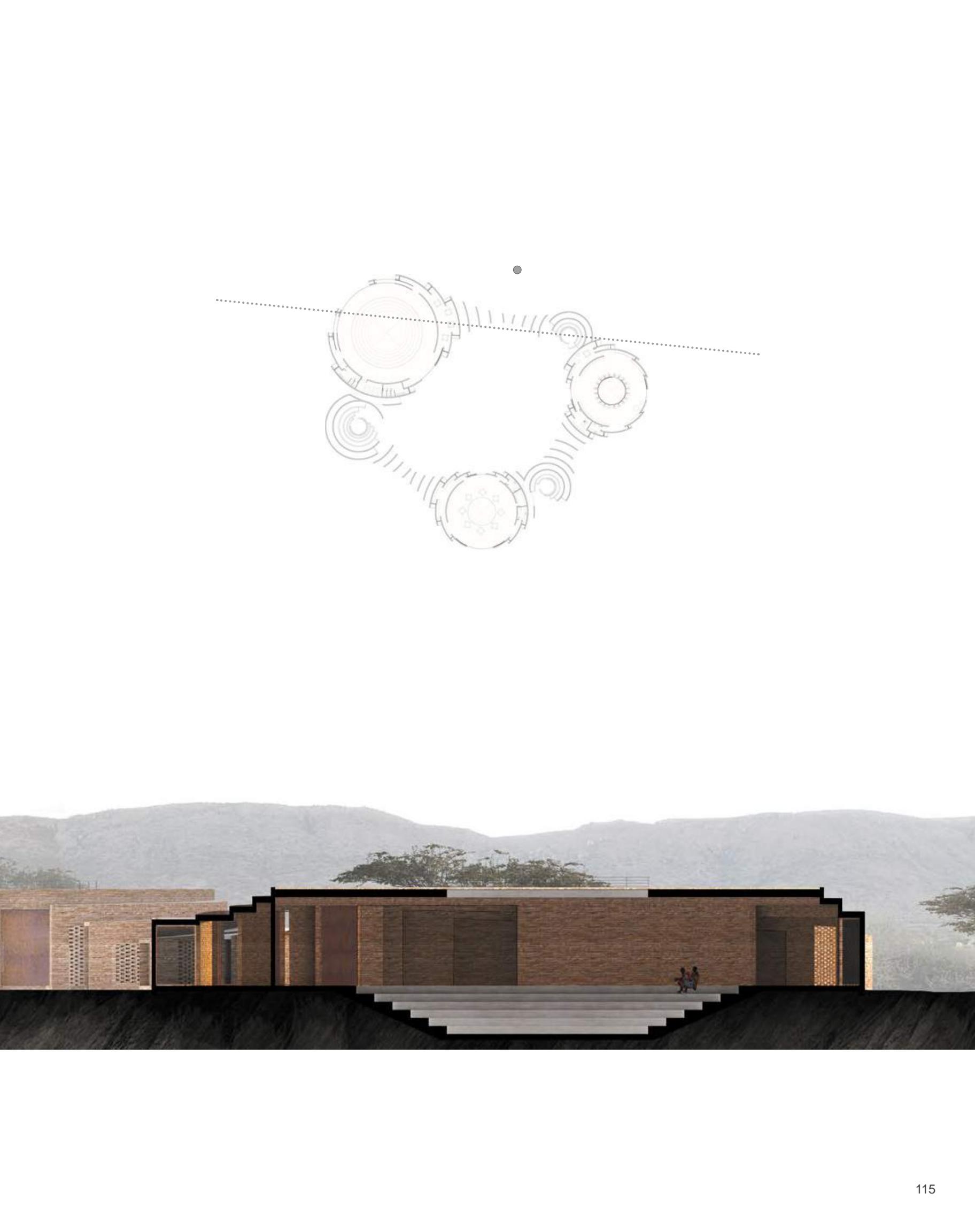


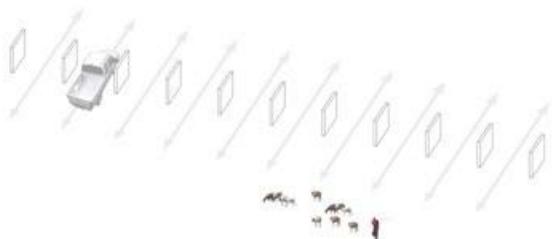
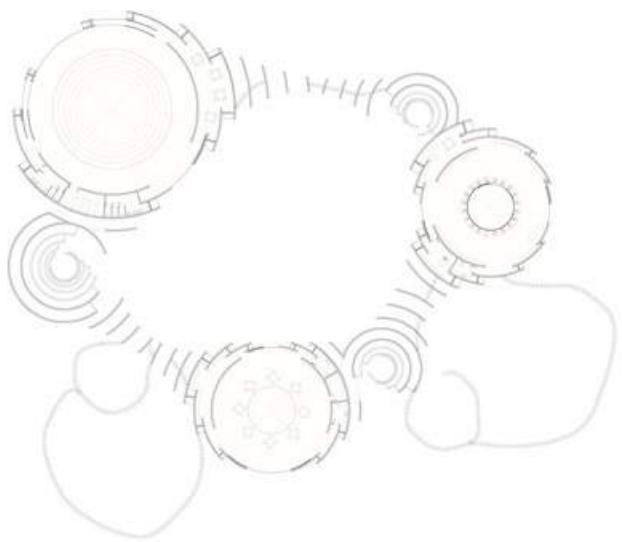
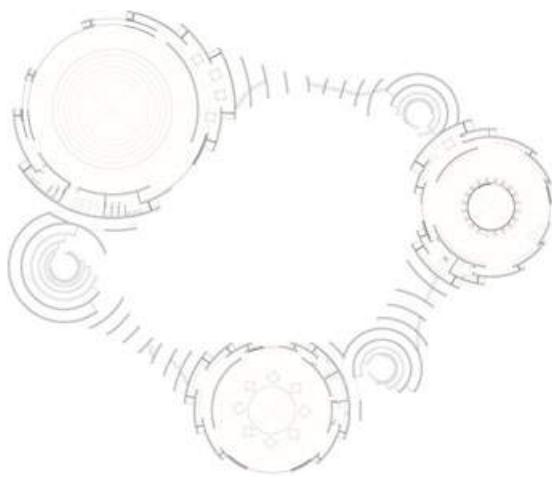


BUILDING SECTION

The vertical dimensions of the building are based off actual tree height measurements made on site. So as to not interrupt the horizontal plane of the trees, the Maasai Knowledge Exchange was designed to sit below the line of the tallest acacia trees. This low slung nature also allows the campus to hide among the trees, only emerge when being closely approached. This hidden quality also echoes the traditional Maasai home which is nearly impossible to detect until one is nearly at its doorway.

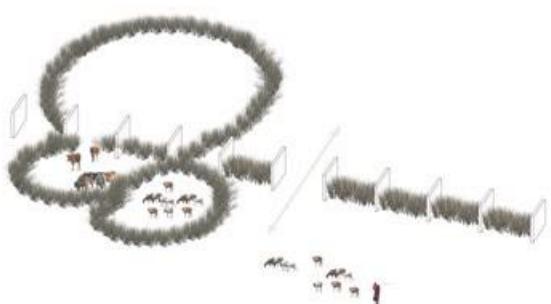
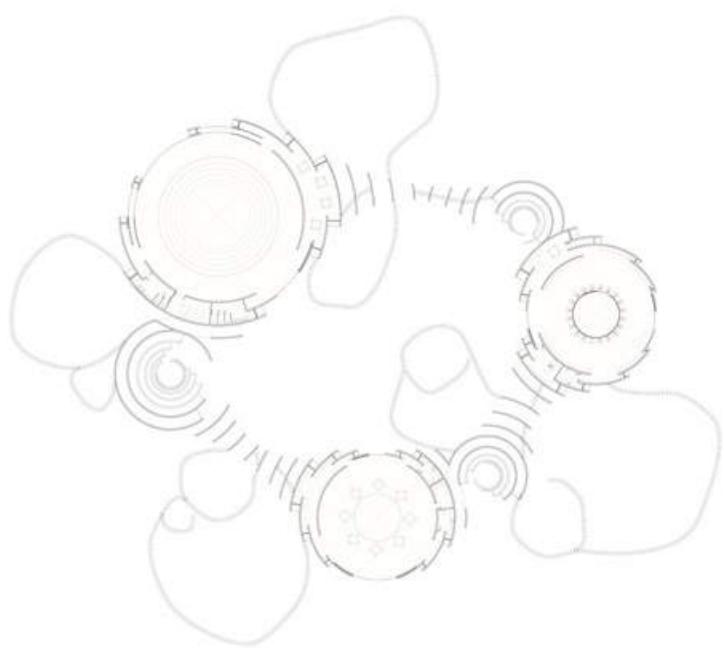
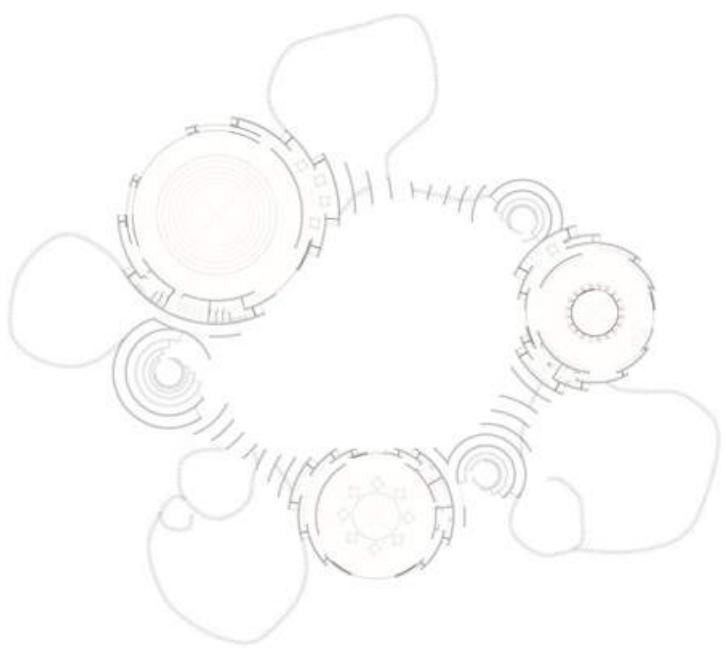




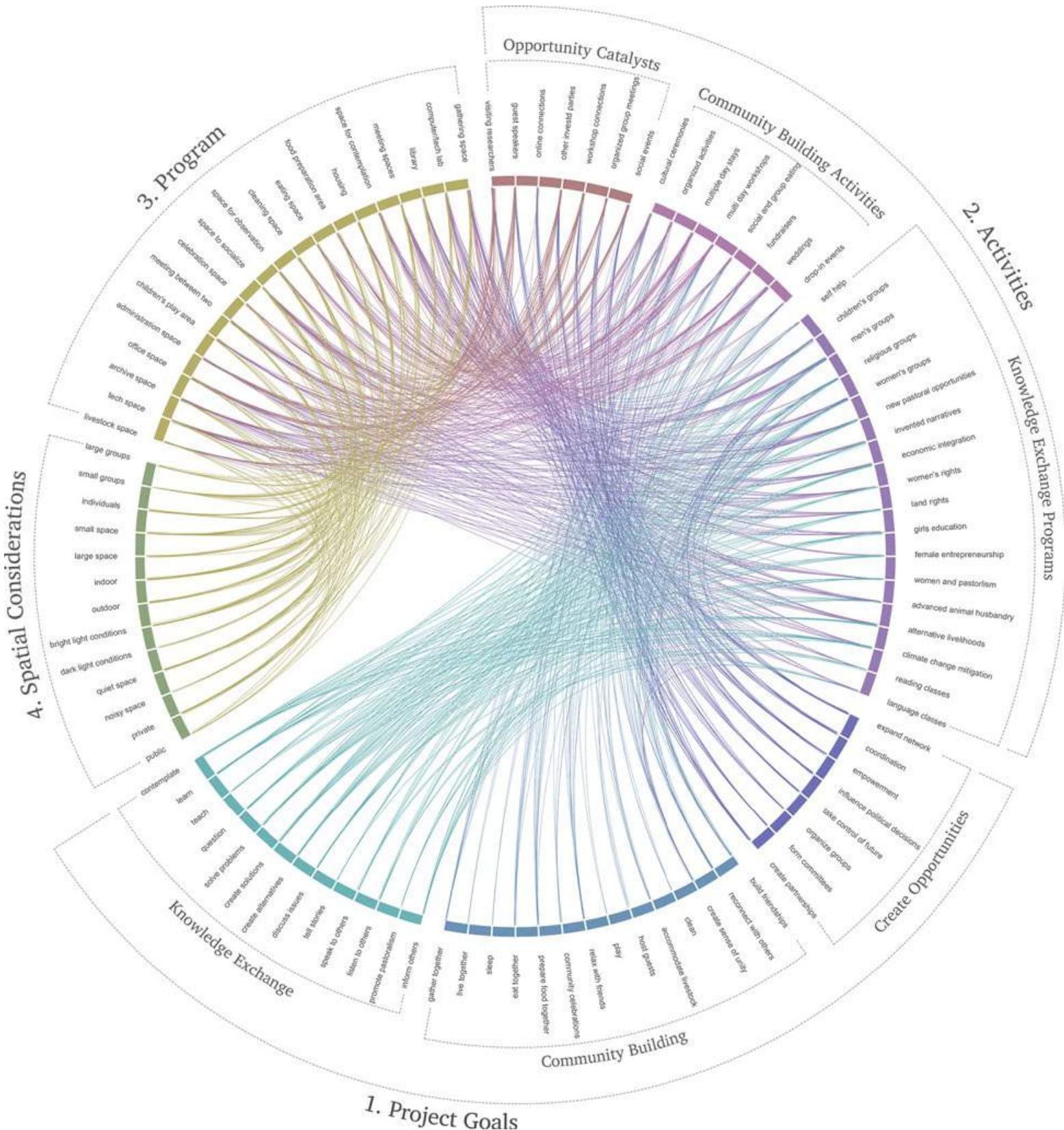


FLEXIBLE WALLS

The wall system used in the design of the Maasai Knowledge Exchange is quite simple. By incorporating a series of perpendicular walls, interstitial permeable spaces are created in between. These spaces can be filled in with the traditional Maasai fence in order to render the wall system impermeable.

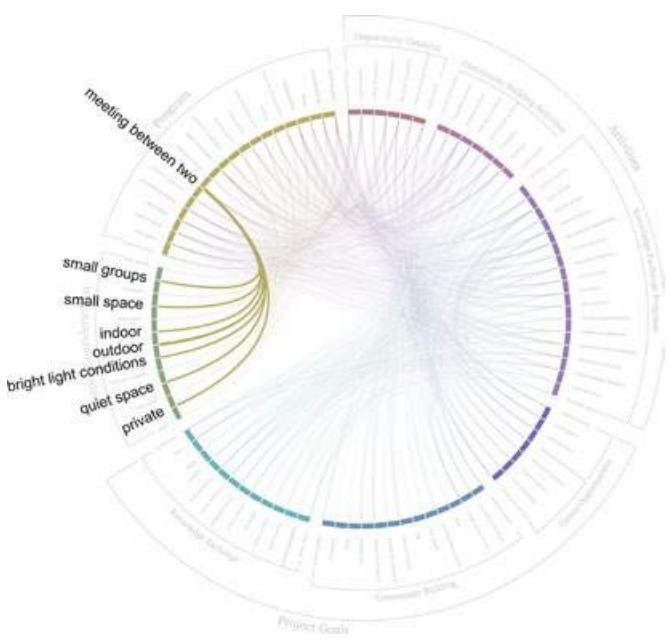
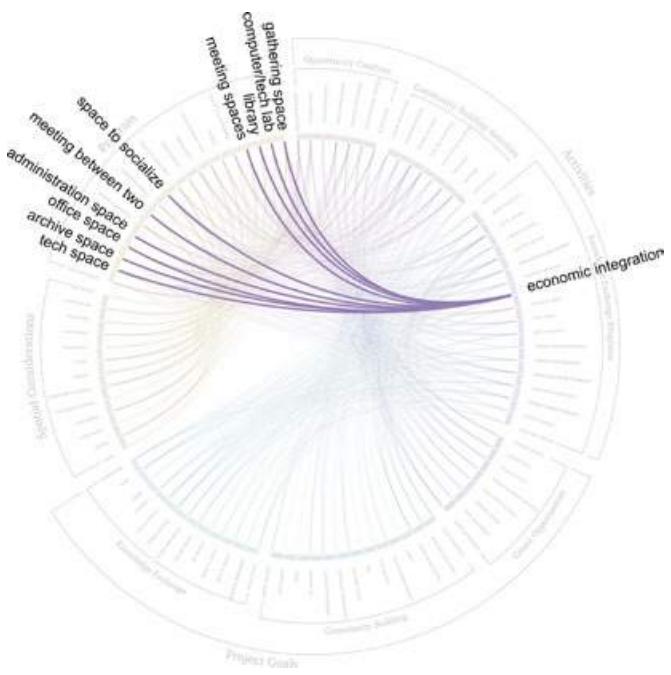
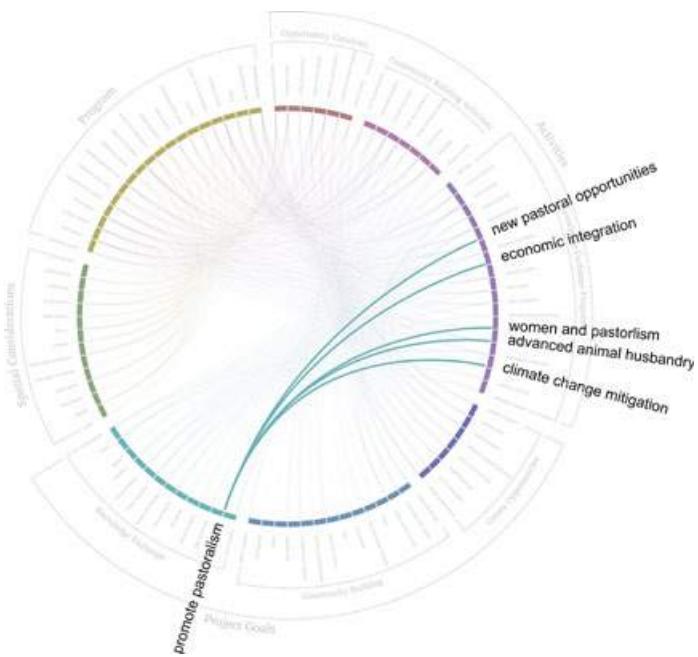


In addition, extra interior and exterior spaces can be added in the same manner, thereby allowing the system to take on an infinite number of forms to accomodate livestock, various activities, and new programs.



PROGRAM RELATIONSHIPS

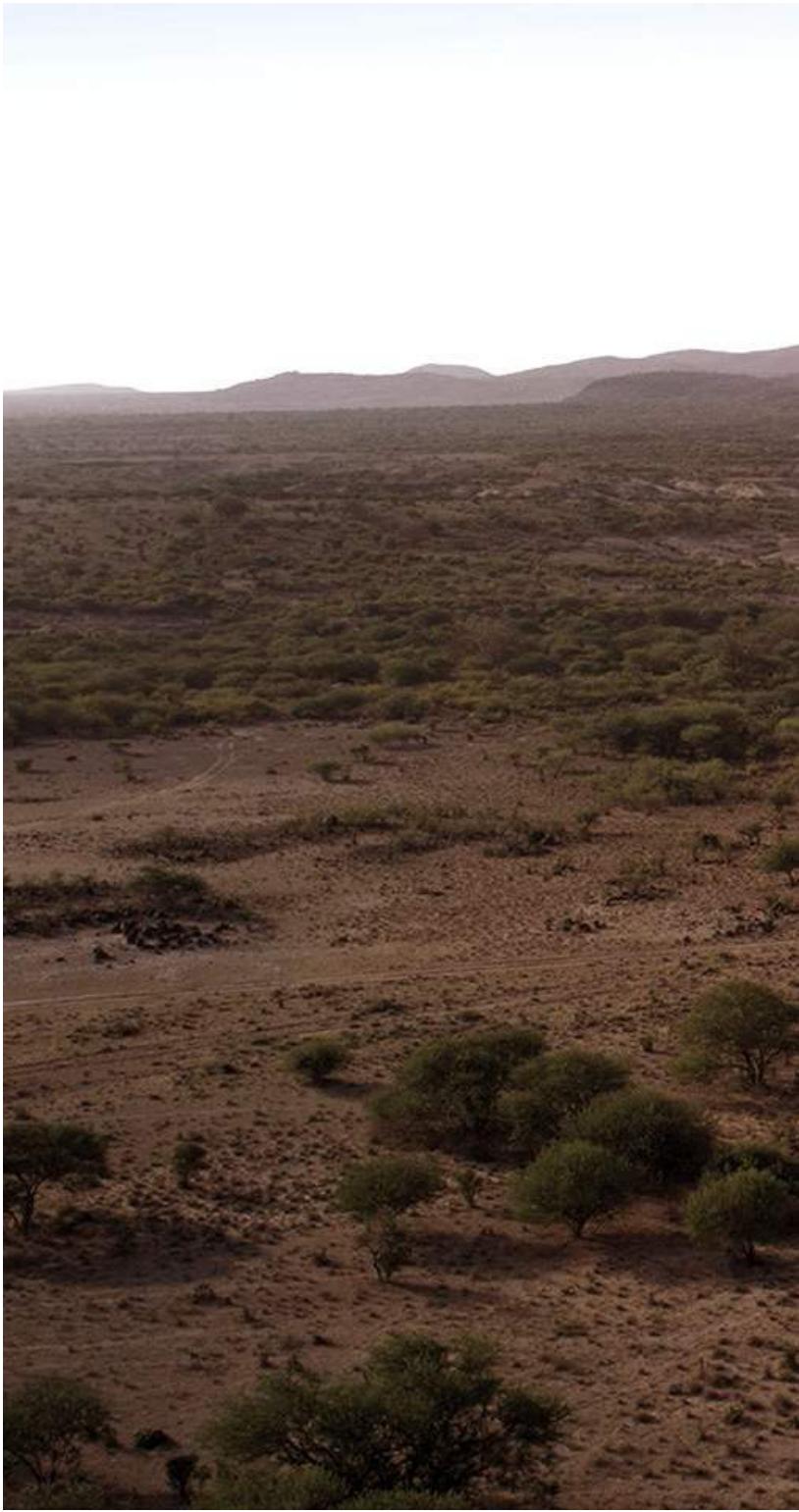
Complex relationships exist within the Maasai Knowledge Exchange's deceptively simple scheme and programmatic objectives. The above diagram helps to visualize the complex relationship between programmatic objectives, the activities needed to achieve them, and the architectural space needed to house them.

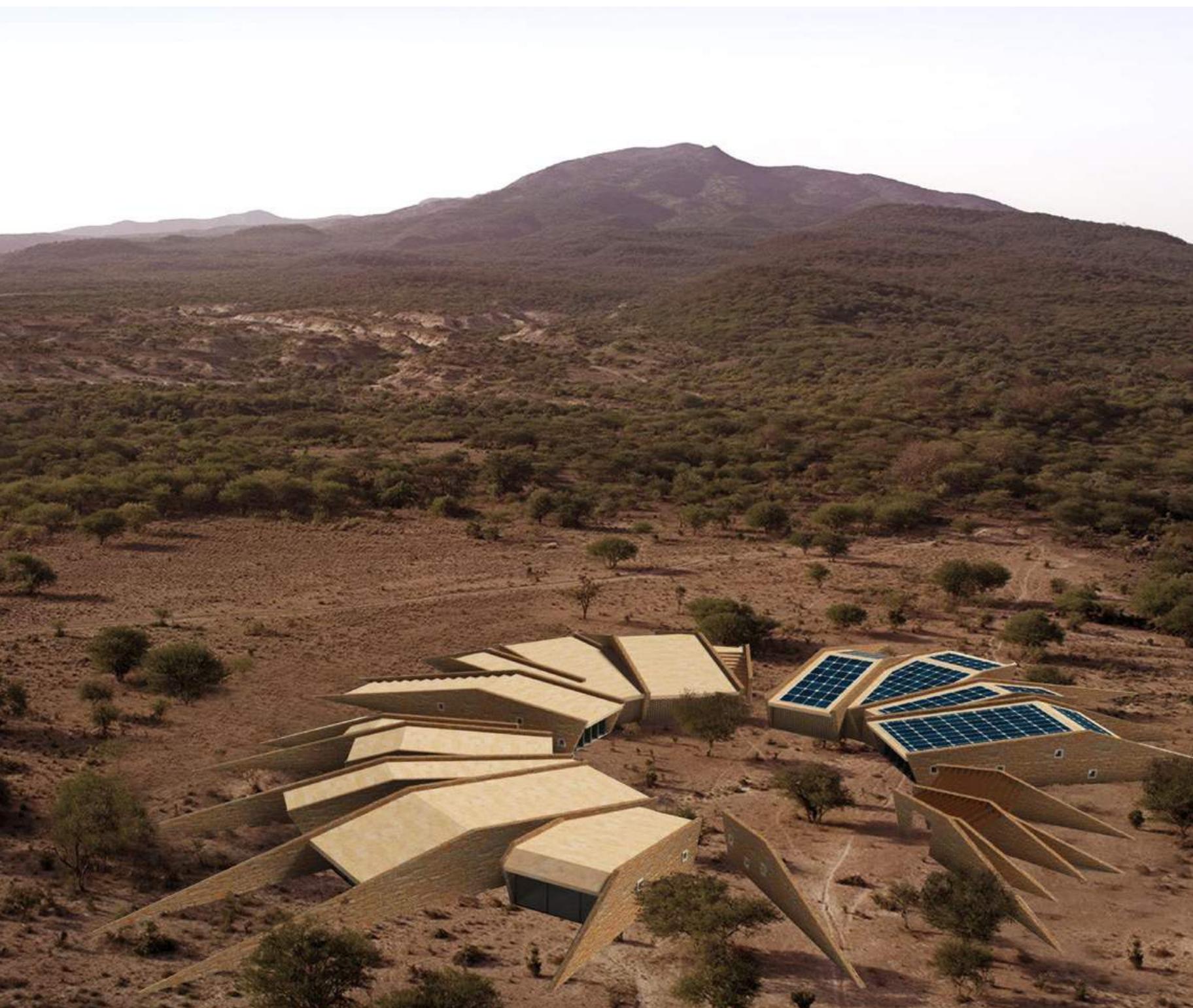


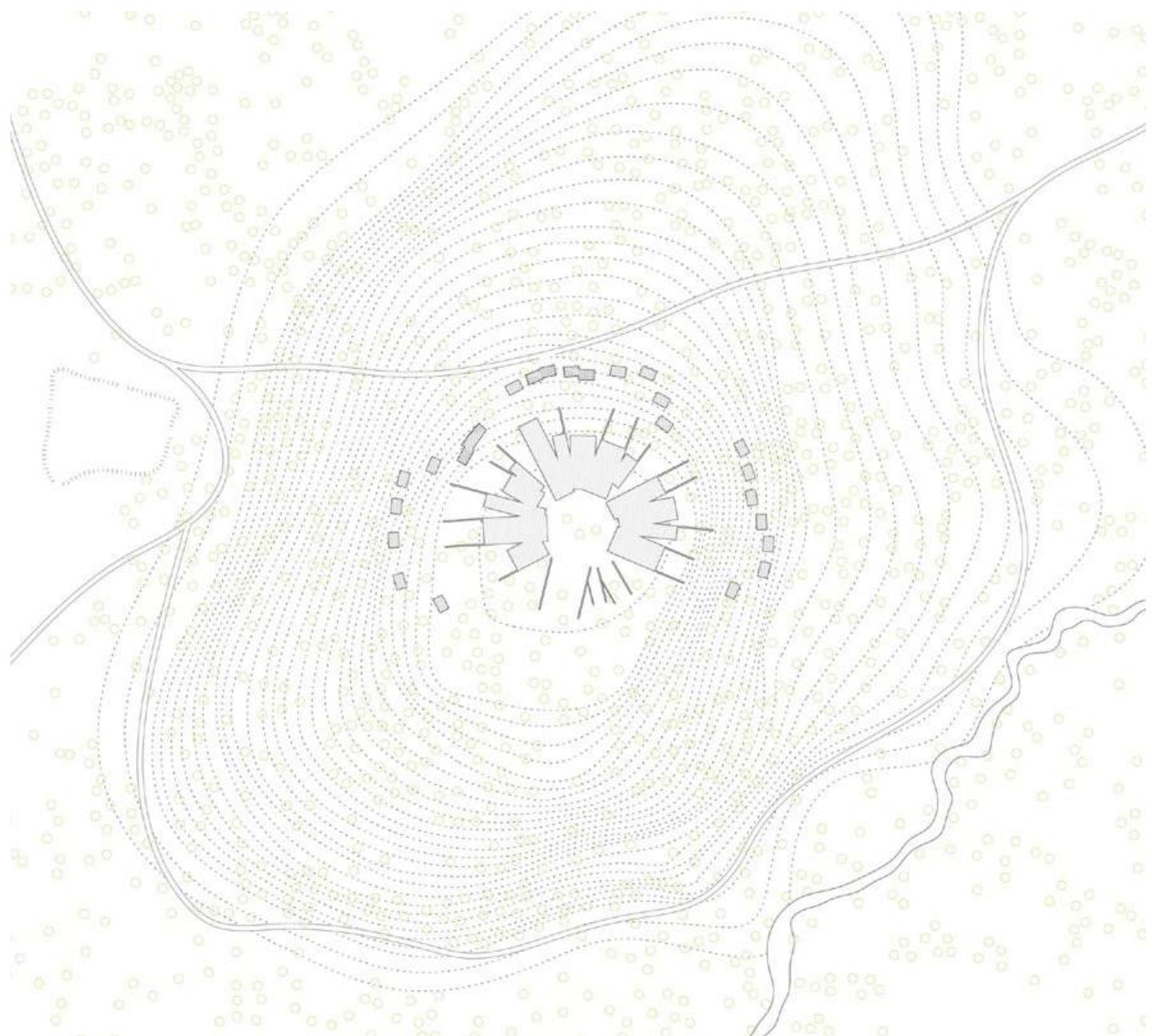
PRELIMINARY DESIGN

THE SUPAMAASAI CULTURAL CENTRE

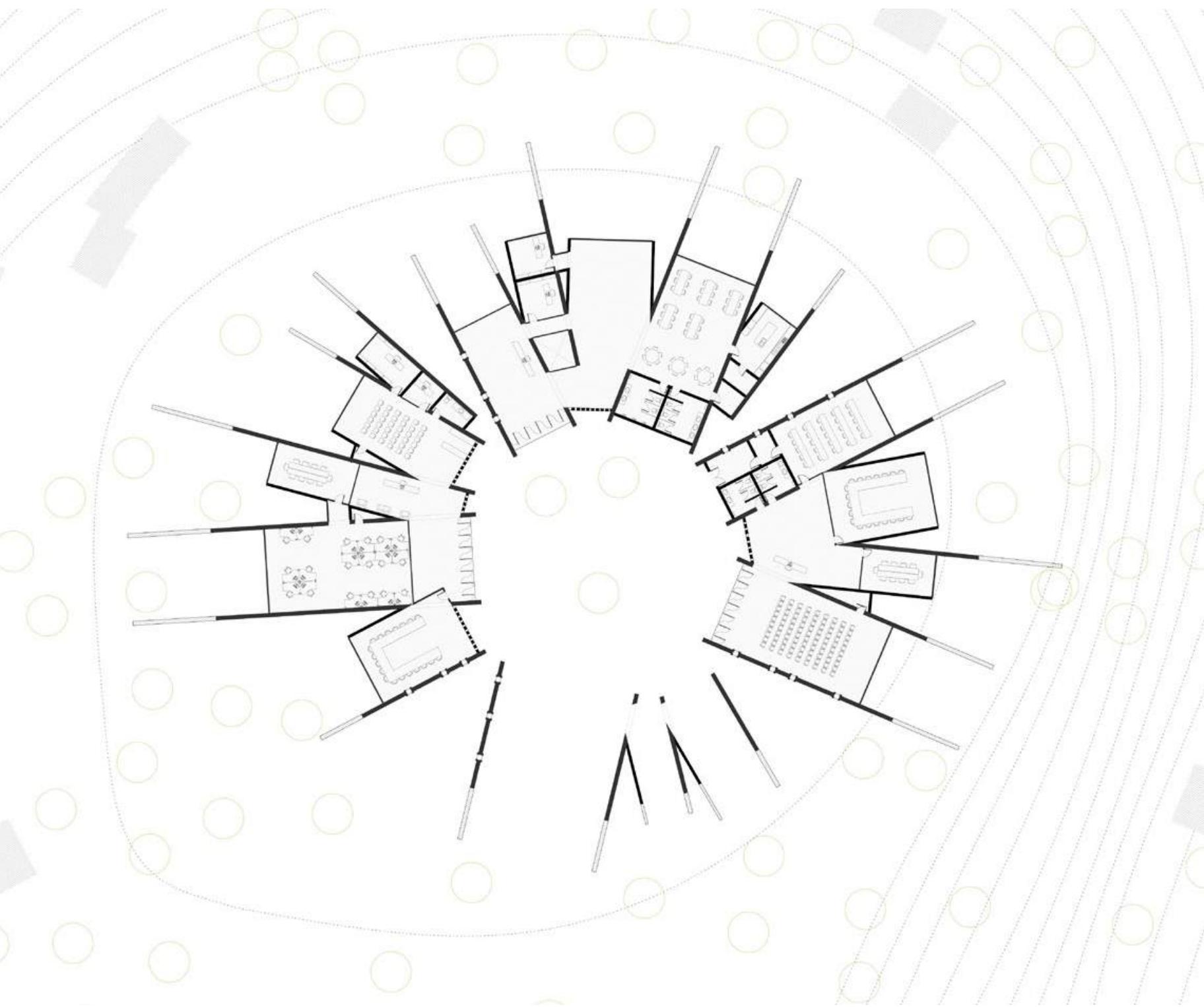
The SupaMaasai Cultural Centre was the first project I designed in Loodariak for The SupaMaasai Foundation. After completing the project I was able to reproach it again in the form of an in-depth academic research and design thesis.







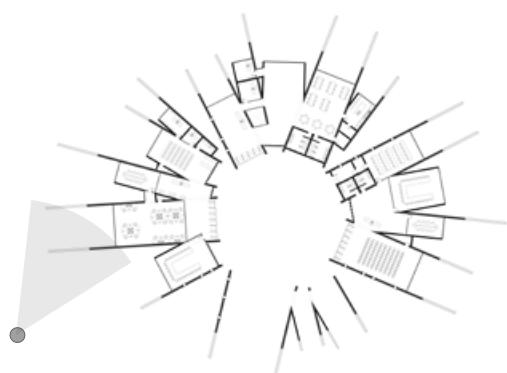
SITE PLAN



FLOOR PLAN

APPROACH

Long stone walls create a series of semi-enclosed private spaces that can be used for gardens or as controlled areas to test new crops. The walls also act as large thermal masses that passively keep the interior of the building cool during the day and warm at night. In addition, the shape and orientation of the walls also help passively cool the building by directing outside breezes into the interior spaces.





ENTRY GATE

By cutting into and out of the earth, the centre deeply imbeds its self into both the landscape and the local culture. By this method, the ground plane is extended upwards and outwards, allowing for multiple modes of occupation on, between, within and outside the building.





COURTYARD

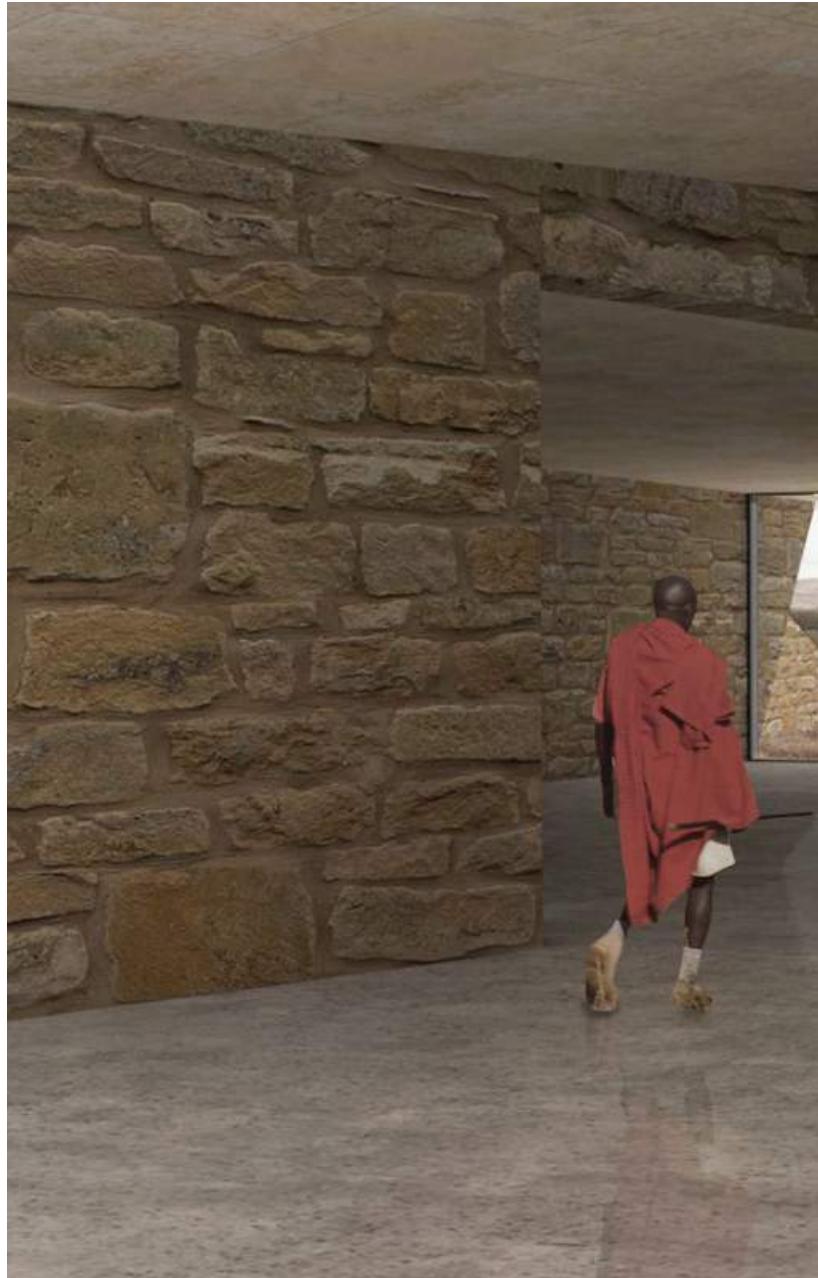
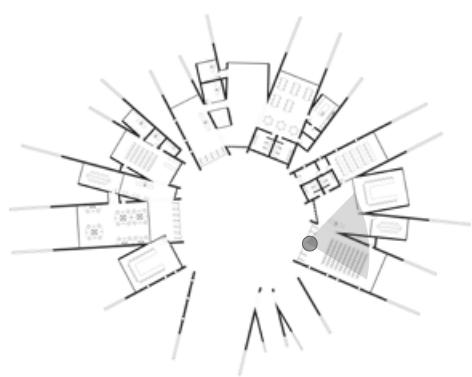
The courtyard of the SupaMaasai Cultural Centre provides a protected and sheltered oasis for contemplation, activity, and leisure. By preserving a series of beautiful Acacia trees and providing shaded terraces, various zones emerge as places for congregation and relaxation.

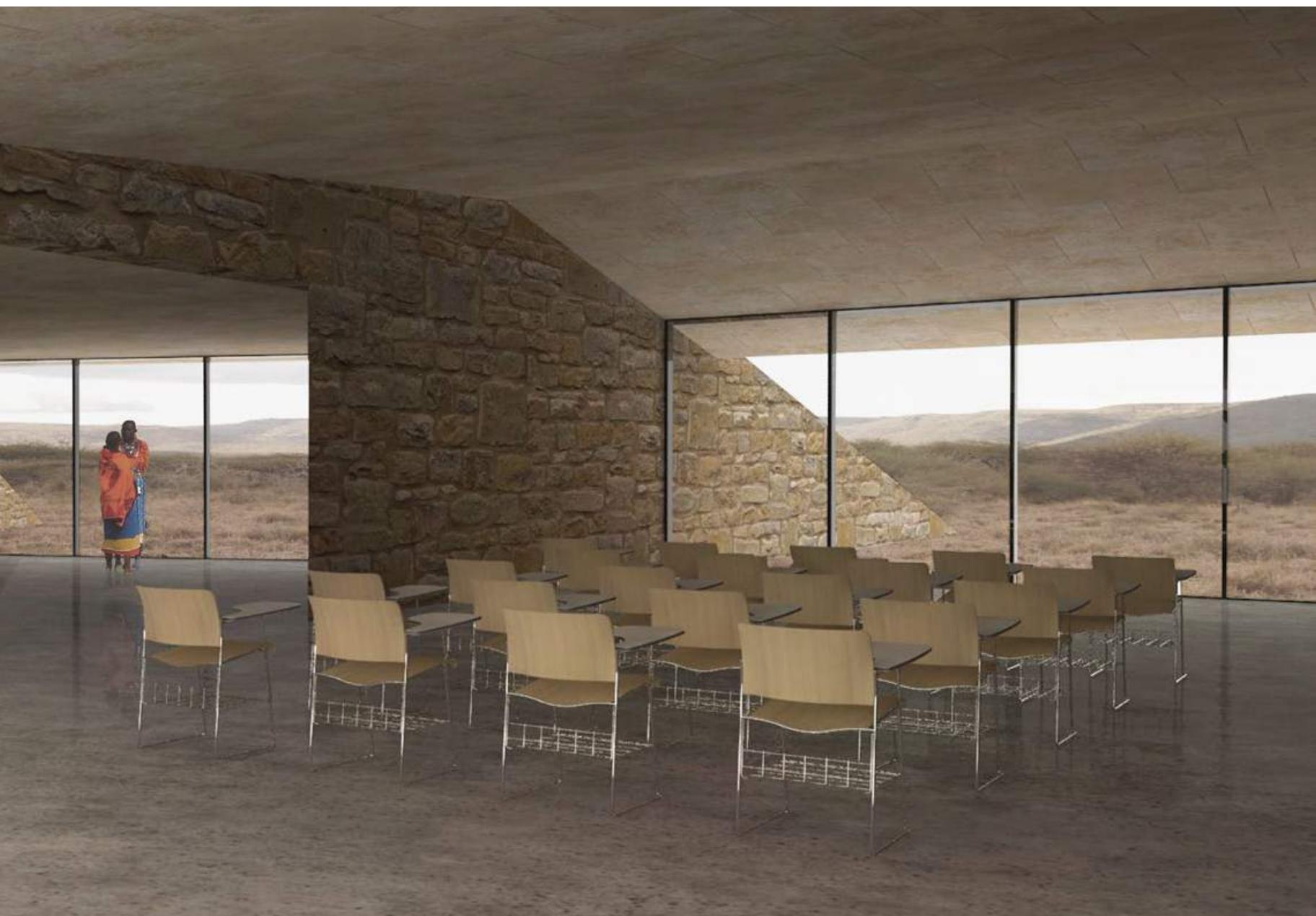


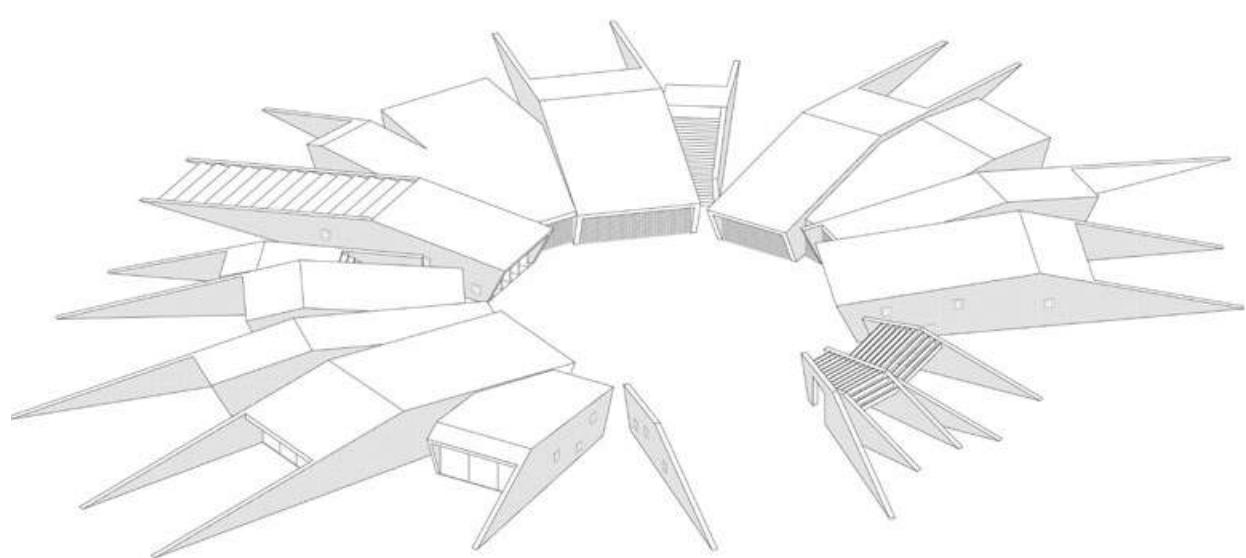


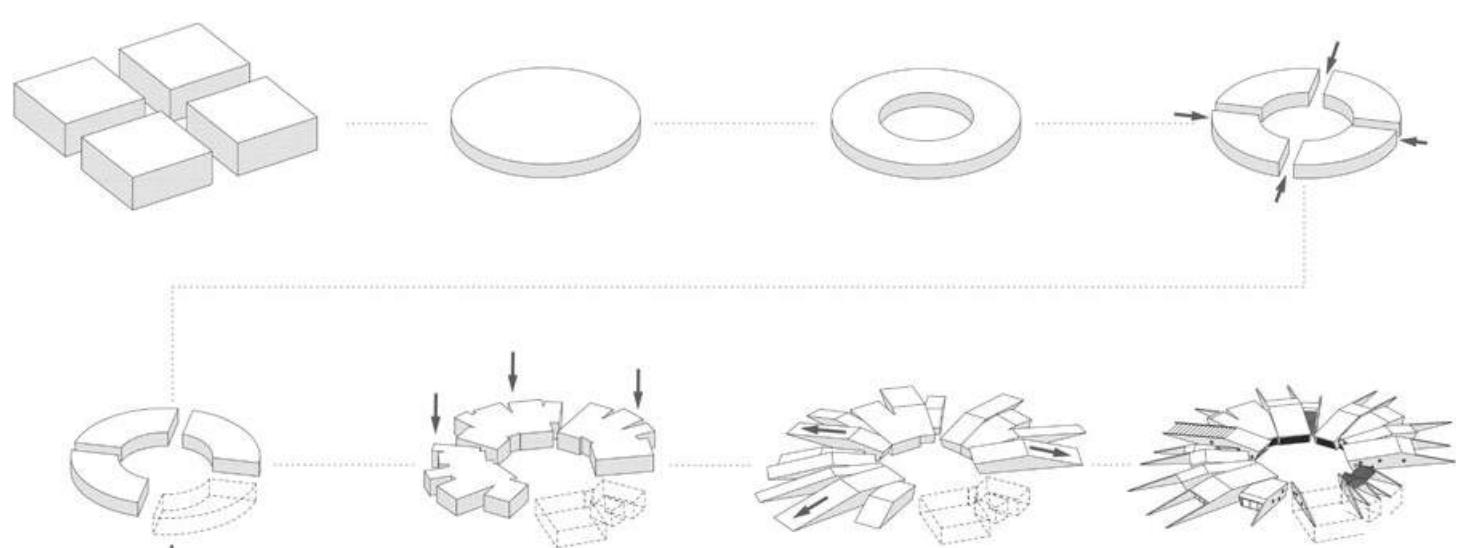
INTERIOR

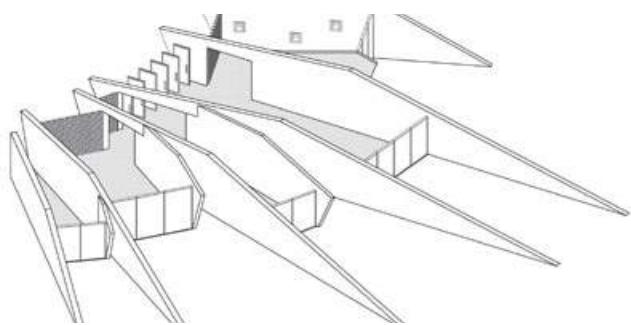
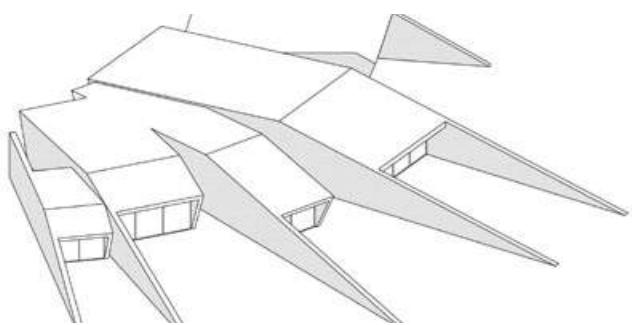
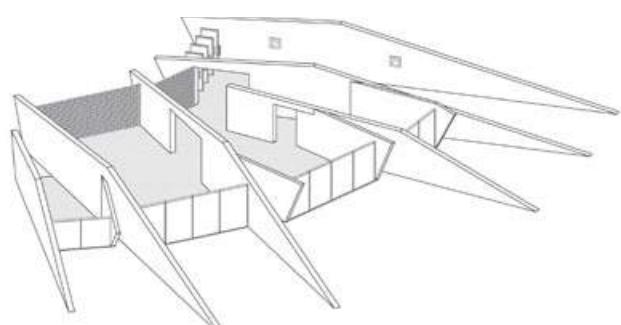
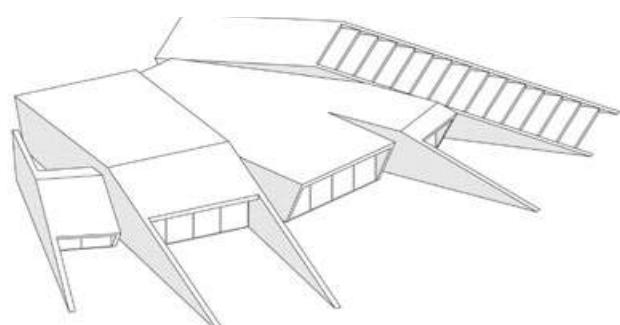
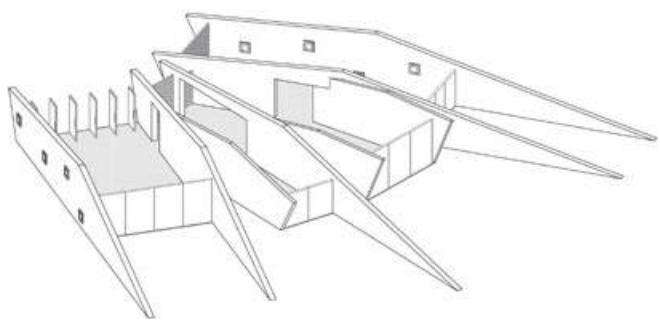
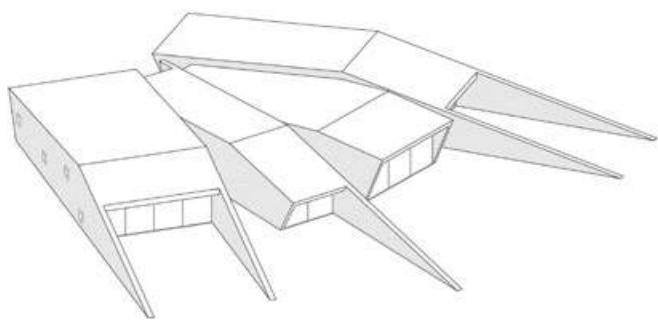
Interior spaces feature familiar textures and local materials appropriate to the Maasai culture while maintaining a contemporary design and feel. Large windows help to frame the landscape and extend one's perception of space out into the landscape while blurring the boundaries of inside and out.

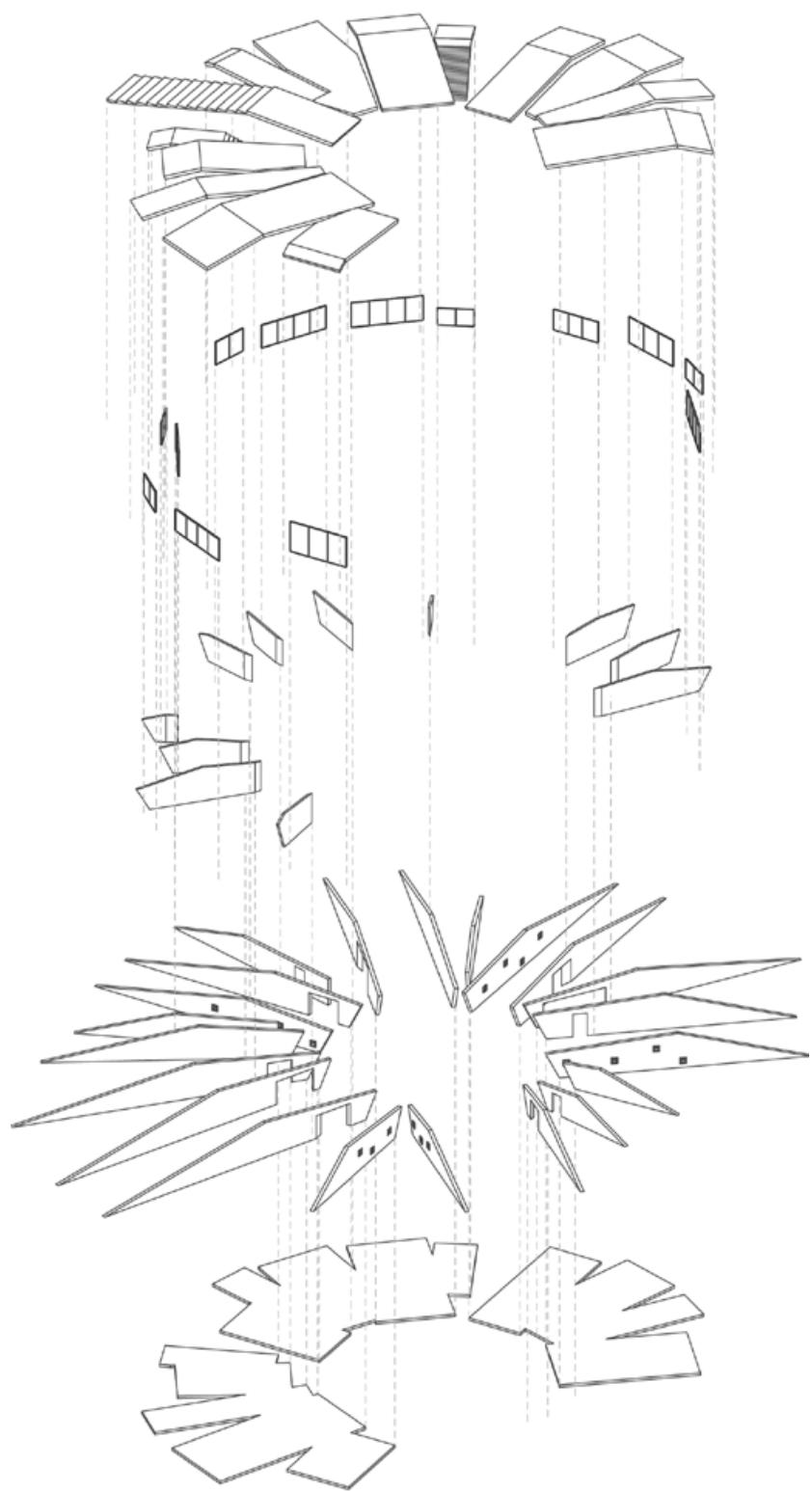


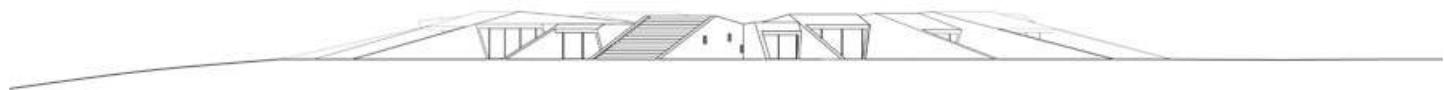
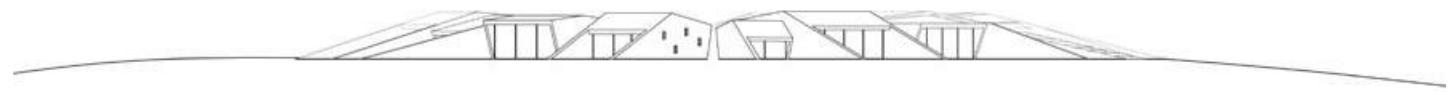
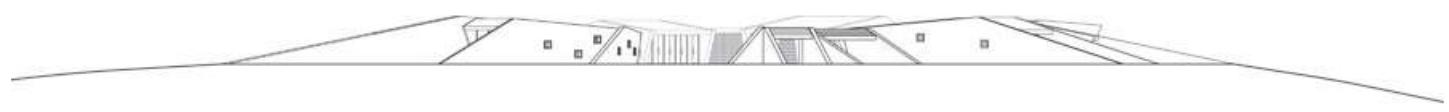




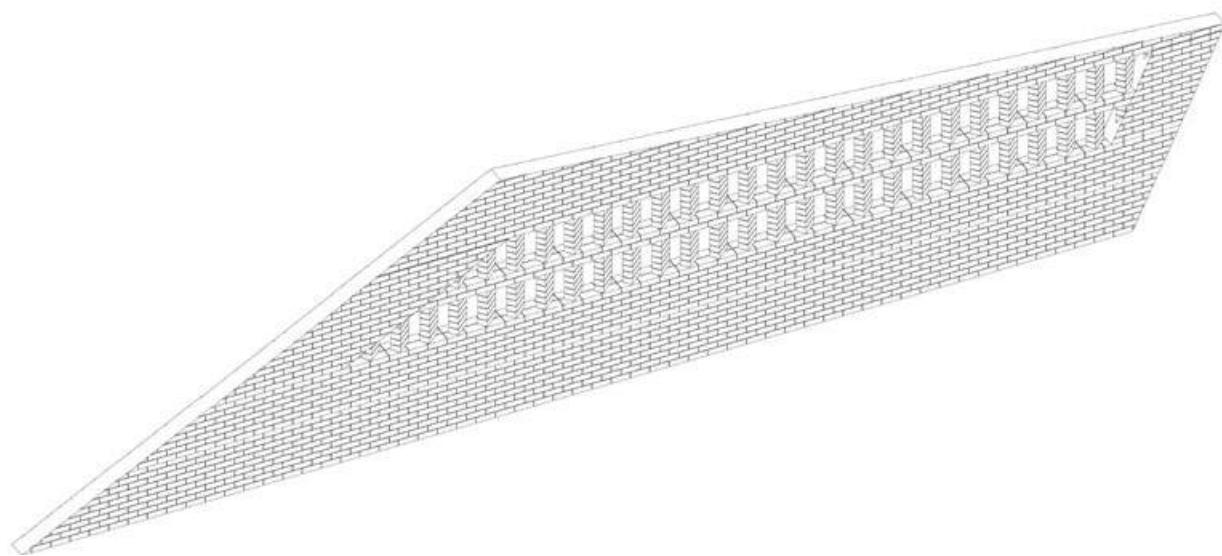
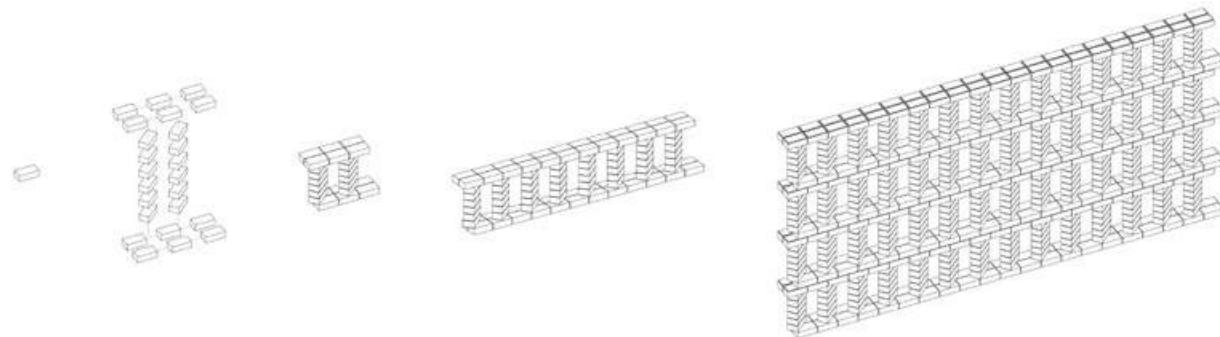












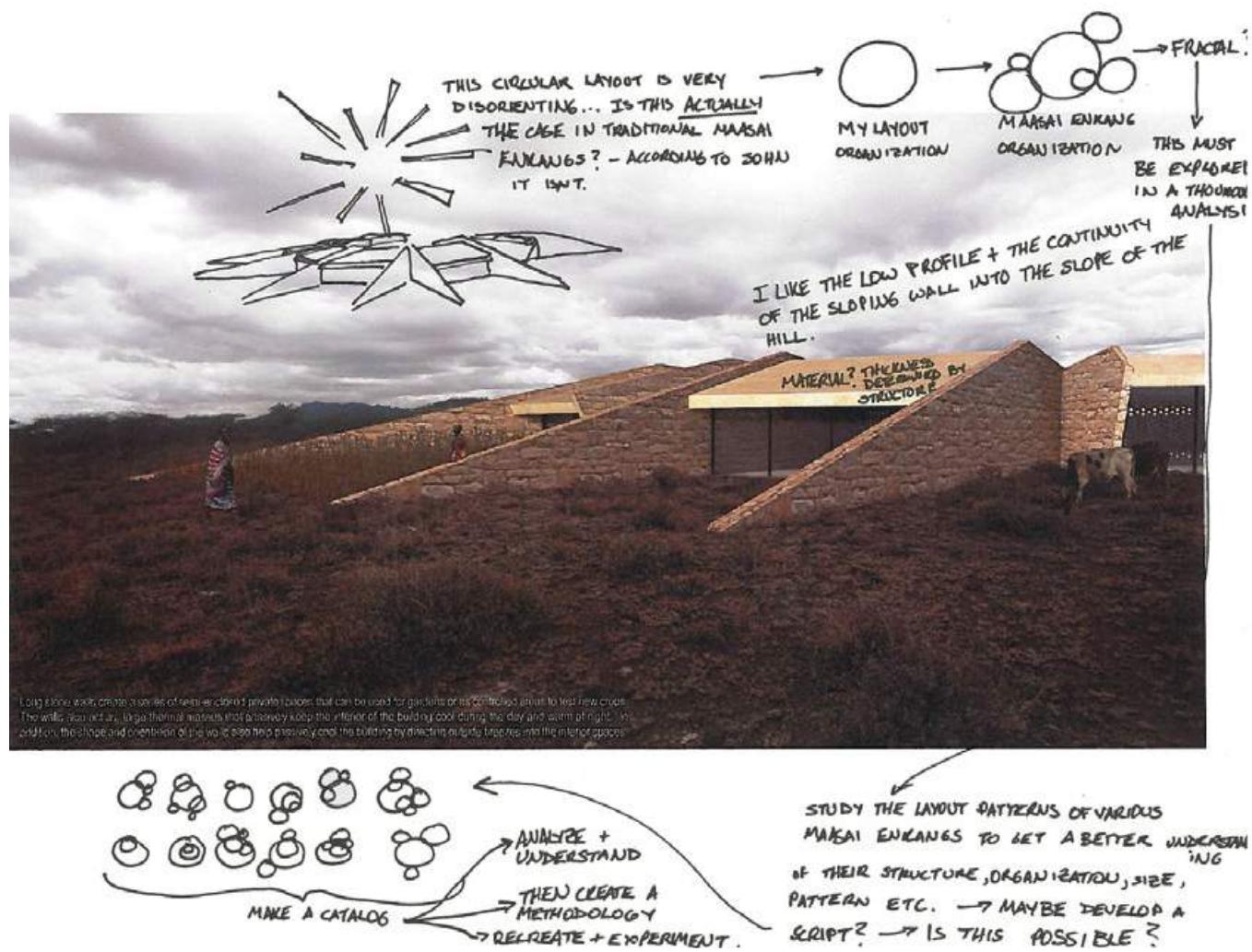
SUPAMAASAI CENTRE

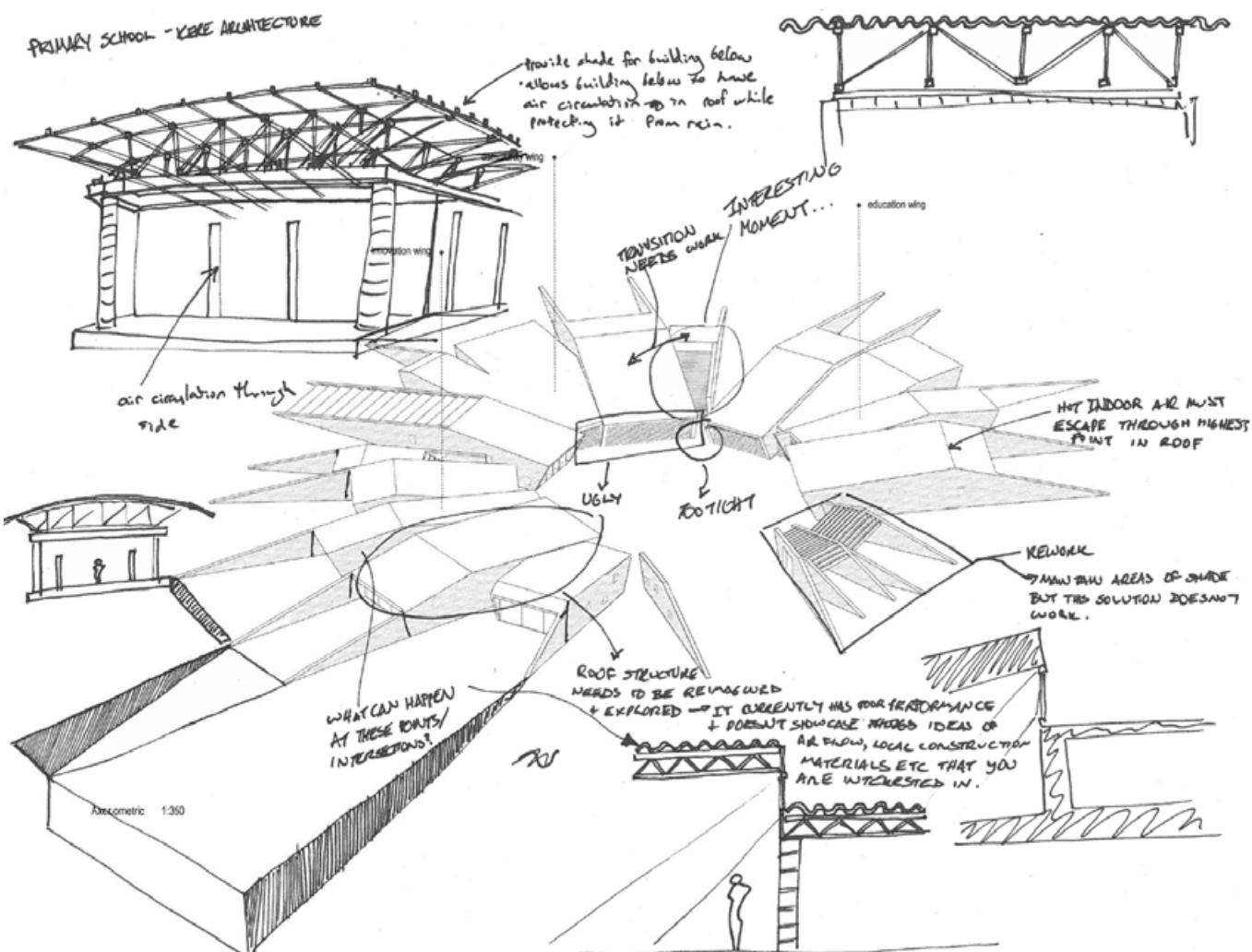
PROGRAM & AREA

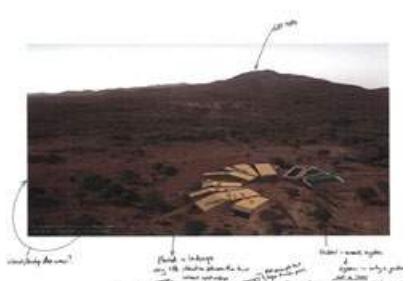
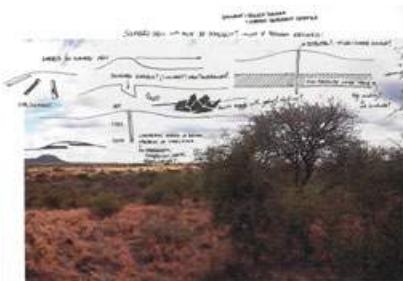
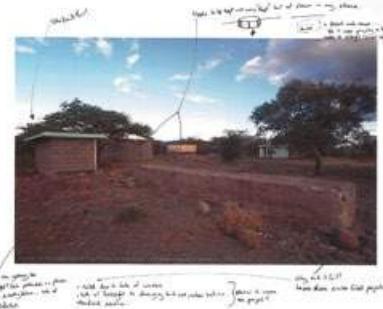
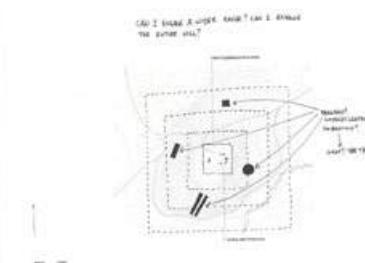
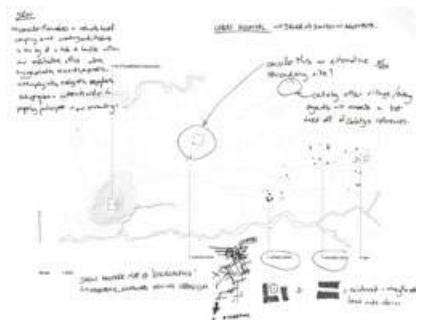
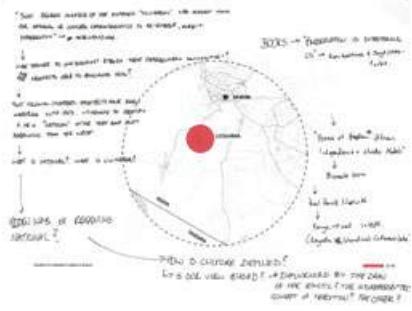
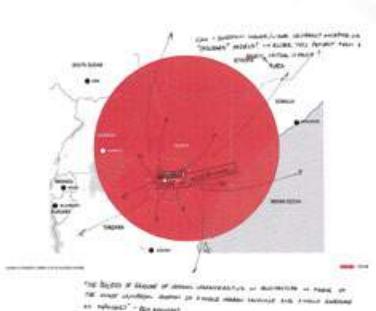
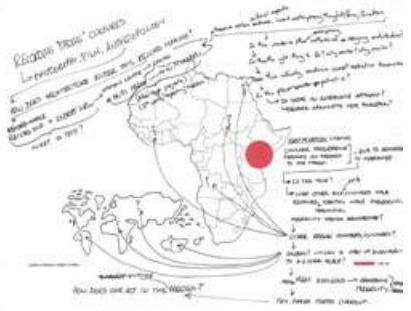
CATEGORY	TYPE	PROGRAM	#	DIMENSIONS	AREA
• shared	• gather	• multi-purpose room	1	• 8x8	• 64m ²
		• lecture room	1	• 13x8	• 104m ²
		• meeting room, lg	1	• 10x7	• 70m ²
		• meeting room, sm	3	• 7x4	• 28m ²
	• tech	• computer lab	1	• 10x6	• 60m ²
		• server room	1	• 3x2	• 6m ²
		• printer/fax/copy room	1	• 2x3	• 6m ²
		• storage room	1	• 2x2	• 4m ²
	• eat	• kitchen	1	• 4x3	• 12m ²
		• communal eating space	1	• 10x10	• 100m ²
	• miscellaneous	• gallery / showcase space	1	• 5x6	• 30m ²
		• front reception area	1	• 4x2	• 8m ²
		• notice board area	1	• -	• -
		• public washrooms	2	• 5x4	• 20m ²
	• guest houses	• short term, shared	10	• 3.5x3.5	• 12.25m ²
		• short term, single	5	• 4x4	• 16m ²
		• long term	5	• 4x4	• 16m ²
• support	• hvac	• mechanical room	1	• 4x3	• 12m ²
		• electrical room	1	• 1.5x1.5	• 2.25m ²
		• green tech support space	1	• 4x3	• 12m ²
	• sanitary	• storage room, lg	1	• 4x3	• 12m ²
		• laundry room	1	• 3.5x2	• 7m ²
		• janitor room	1	• 1.5x1.5	• 2.25m ²
		• garbage area	1	• 3.5x2	• 7m ²
	• auto	• parking spaces	10?	• -	• -
		• drop-off area	1	• -	• -
• outdoor	• gather	• meeting area, large	1		
		• meeting area, small	5		
	• eat	• outdoor eating space	1		
		• bbq / firepit area	1		
		• outdoor food prep area	1		
	• lounge / observation	• outdoor lounge space	1		
		• covered gazebo	1		
		• observation platforms	3 - 4		
		• observation walk, loop	1		
		• observation tower	1		

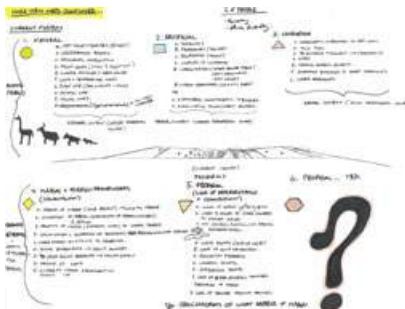
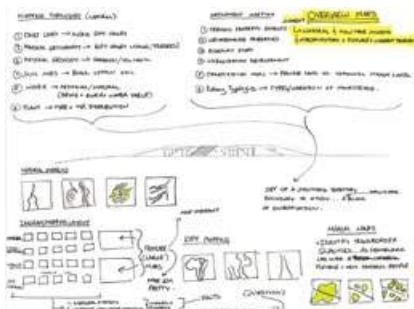
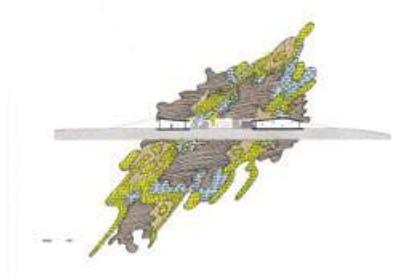
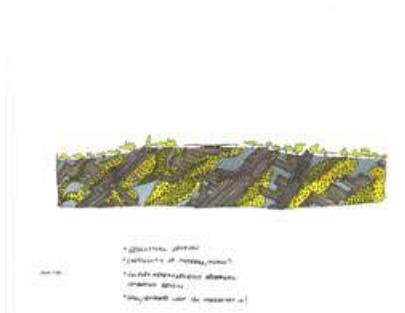
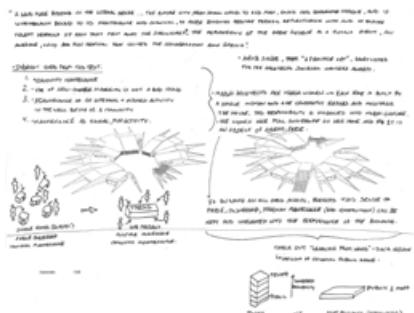
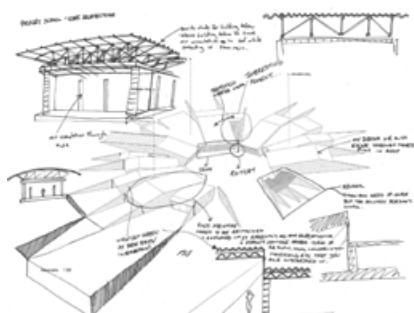
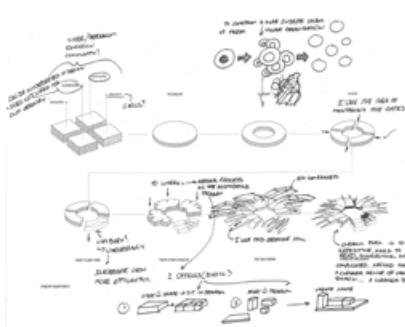
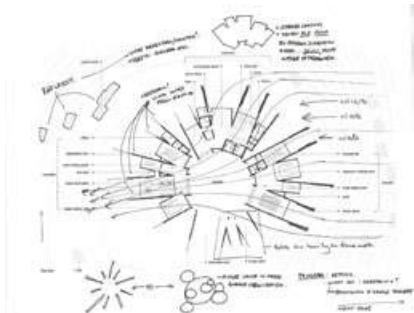
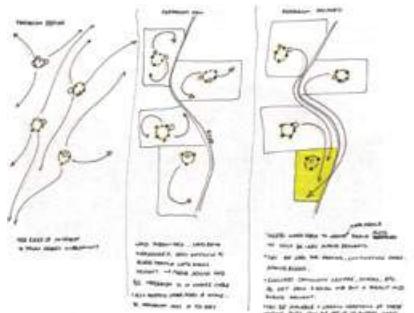
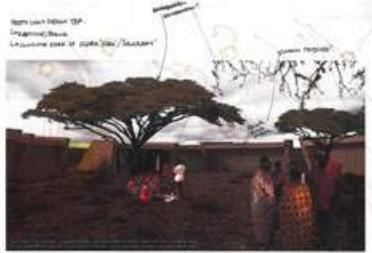
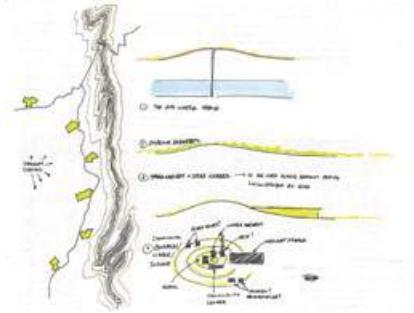
CRITICAL RE-ASSESSMENT

After completing the initial design of the SupaMaasai Cultural Centre, I had the opportunity to re-approach the design problem again in my final academic thesis. This second approach allowed me to critically reassess the design decisions I had previously made in order to inform a more in-depth and comprehensive final design.

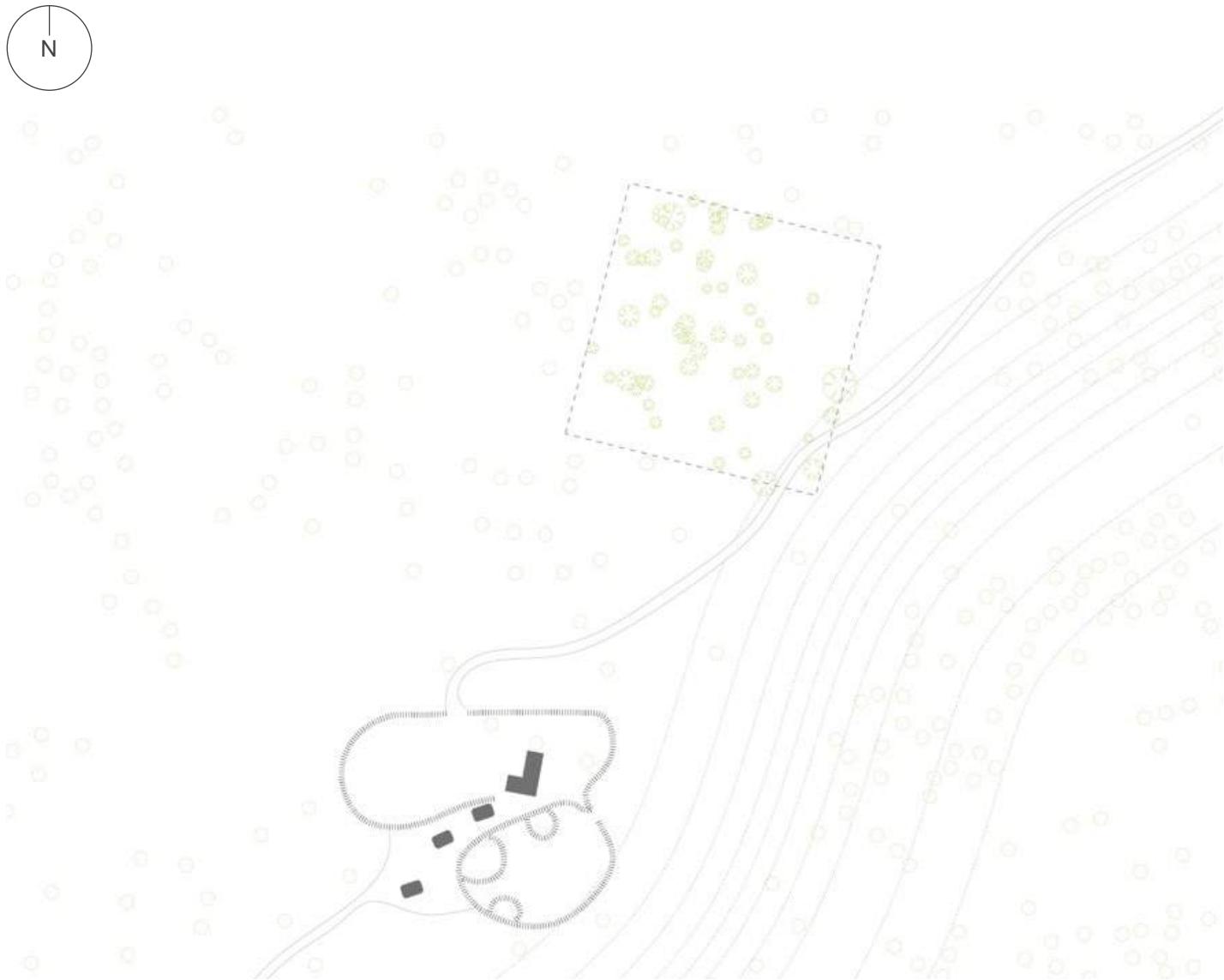






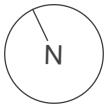


DETAILED SITE ANALYSIS



LANDSCAPE SAMPLE ANALYSIS

The plateau is located about a 3-4 min walk just north of the LeSancha family enkang, and sits at the edge of a gently sloping hill that lies parallel to the mountains to the East. It then stretches to the West along a flat plateau and incorporates a number of groves of trees. This location was considered as a possible site because of the fantastic view of the Eastern mountains that make up the Eastern ridge of the rift valley as well as the view of the village of Loodariak and its accompanying schools as they sit below the site in a lower valley. In addition, the site includes views of the distant mountains to the South in Tanzania as well as the long and linear mountainous edge of the Rift Valley as it fades away and recedes into the distance towards the North. The site also takes advantage of the consistent Eastern winds that gain strength as they flow upwards and over the sloping hill that sits at the foot of the site. Lastly, the site is in close proximity to the Lesancha home, and is only a 3-4 minute walk away. This is ideal in terms of security, convenience, and participation and integration with the family and the rest of the community. Overall, the site is generally flat with a small portion of it sloping towards the East.

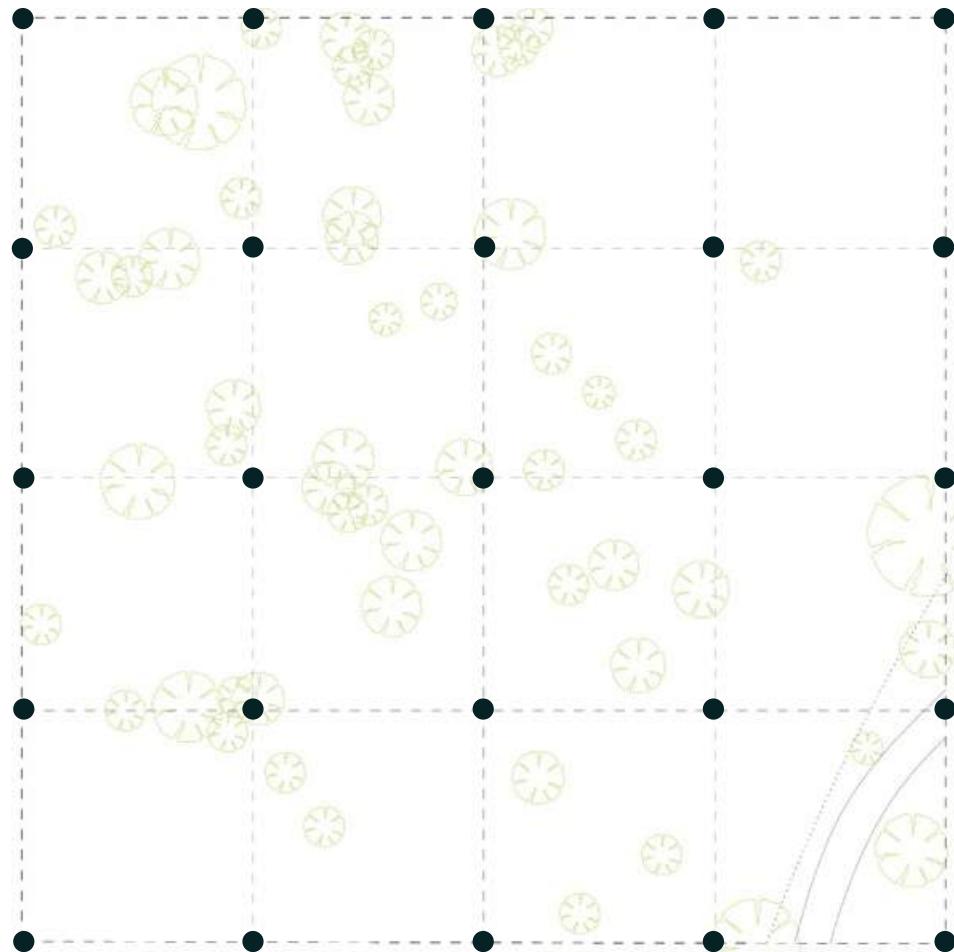
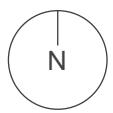










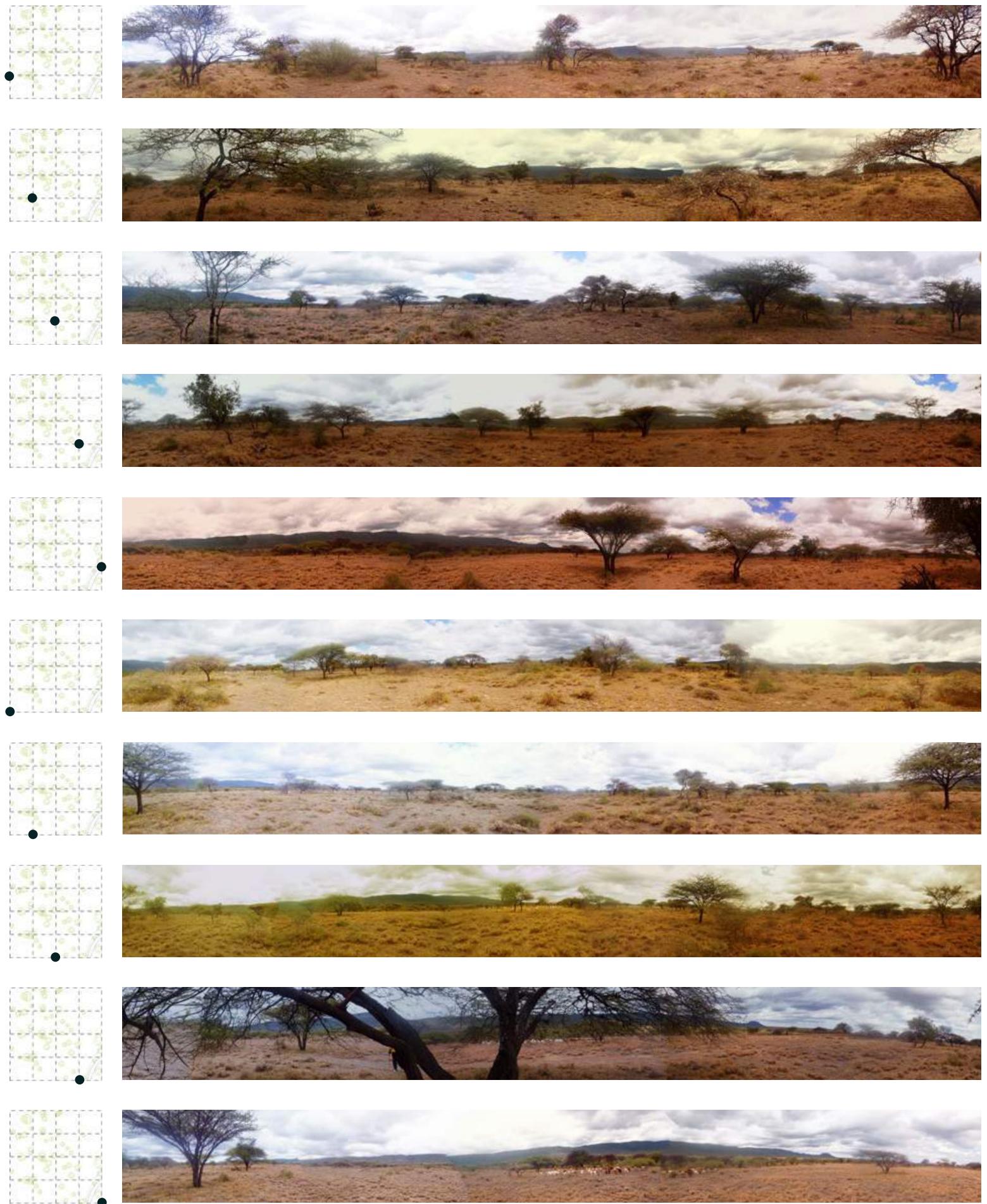




SITE SURVEY

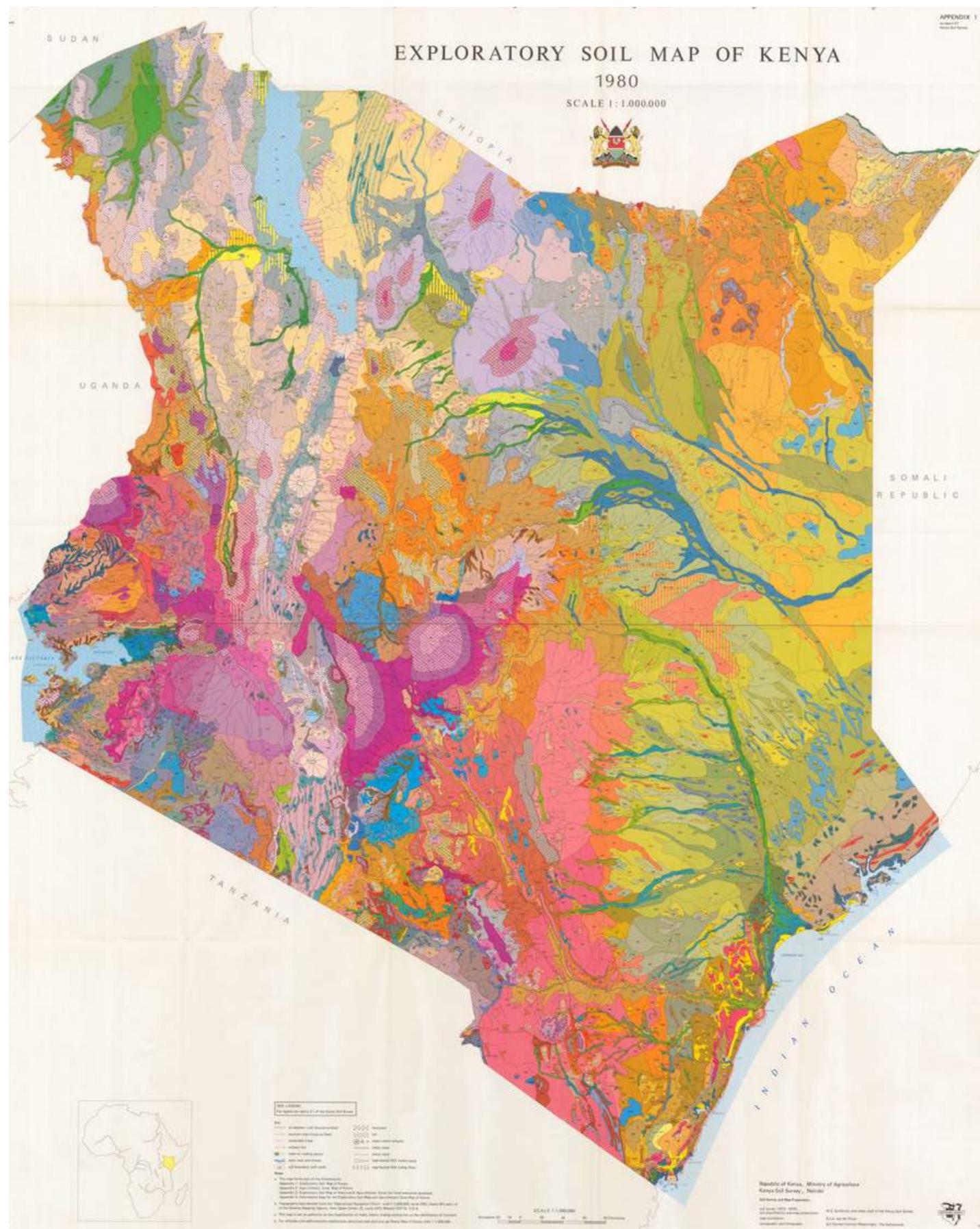
By recording the exact position of trees, roadways and other existing conditions on site, I was able to get a sense of the general makeup of the surrounding landscape. To do this, an 80m x 80m grid was laid out on site with small flags that were set out at 20m intervals in both the x and y direction. By using this grid in combination with a GPS, a compass, and a triangulation system, the exact location of these features could be determined and recorded in order to be used at a later time off-site. In addition, 360-degree panoramic photographs were taken at each 20m interval in order to record the exact features on site.





GEOLOGY

Kenya contains one of the most diverse collections of geological features and phenomenon in the world. From immense tertiary volcanic plateaus created by ancient lava flows to 250 million year old Mesozoic Karoo sediments, Kenya is a prime location to understand the diversity of the world's geology. As Africa's tectonic plate slowly pulled apart to create the Rift Valley, many of these features were revealed over millions of years, exposing some of the most unique geology on the planet.



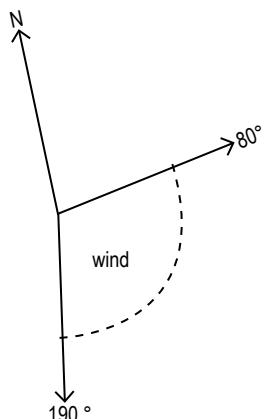
VOCANIC BRECHEA

Found just outside of Loodariak on the steep slopes of the Rift Valley wall, this fantastic example of Volcanic Brechea represents just one aspect of the many diverse geological features present within the area. Formed when chunks of transparent Chert were covered by volcanic ash (indicated by the green rock) during an eruption, Volcanic Brechea then took millions of years to solidify into its current form.



Prevailing Winds Strong and consistent winds come from the East in the direction of the mountains. Winds become significantly stronger at night.

Direction: Strong prevailing winds were recorded between 80 degrees and 190 degrees. Measurements were taken at the South East corner of the Plateau site during the daytime in mid May 2014.



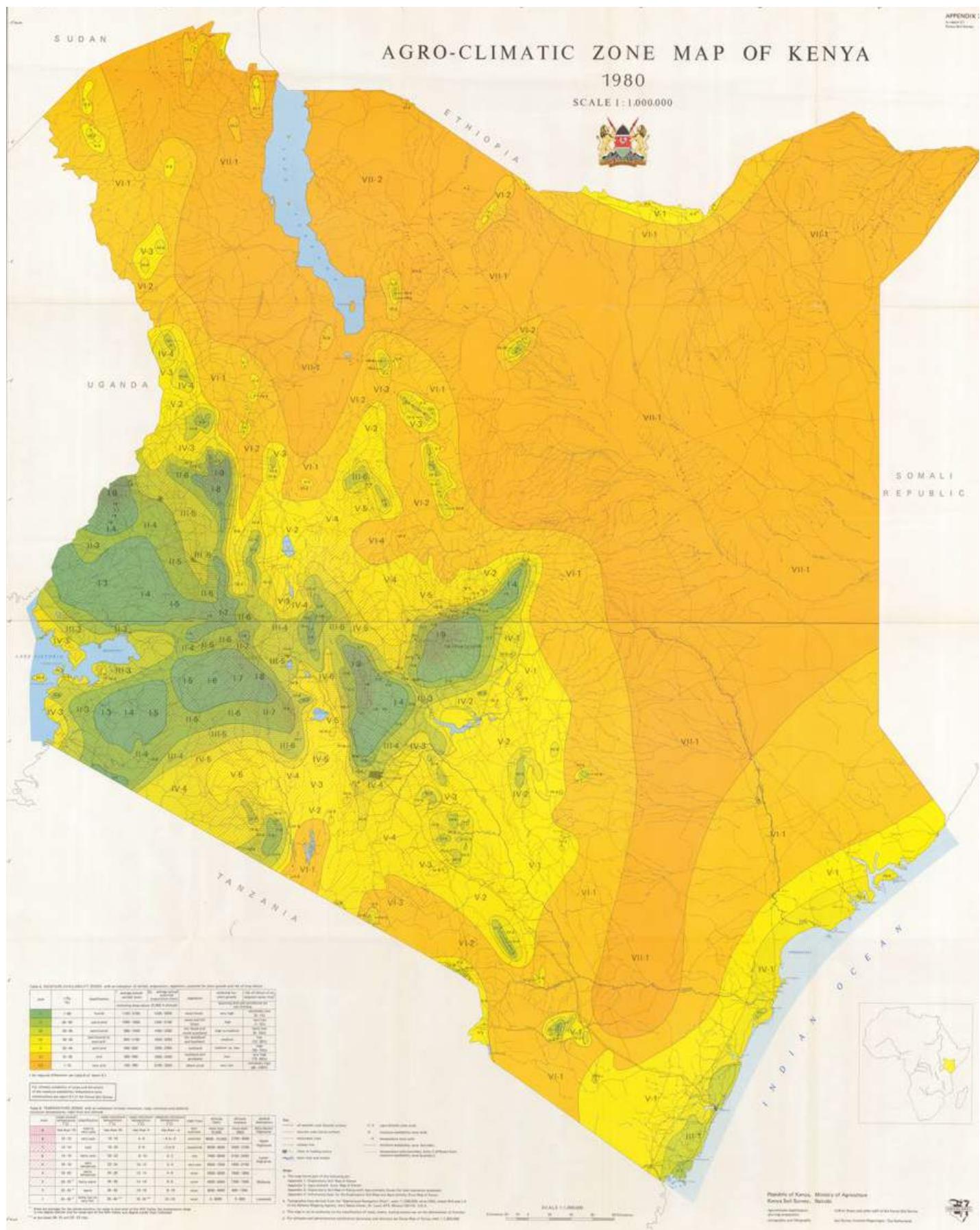
Solar Orientation sun angles: 1°37'42"S of equator
days of sunlight: 365
cloud cover: variable
shading from other objects: various mid height trees and low shrubs dot the site.

Temperature, Humidity & Precipitation This information can be made available upon further research

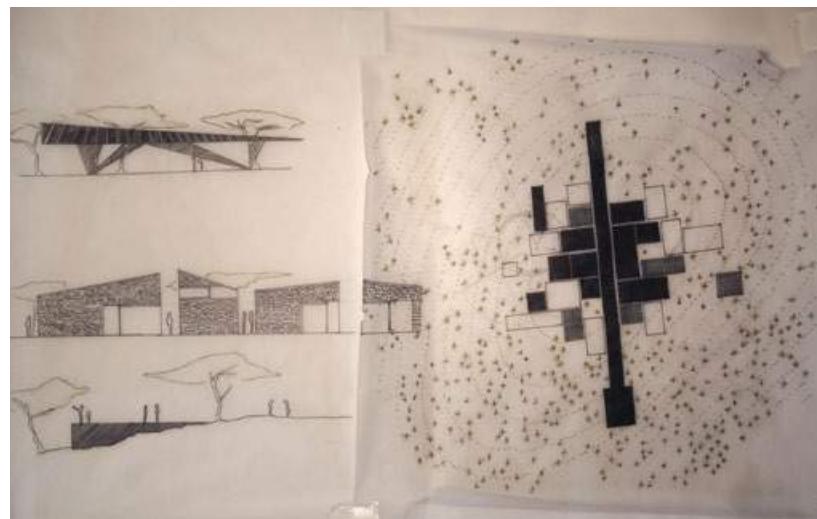
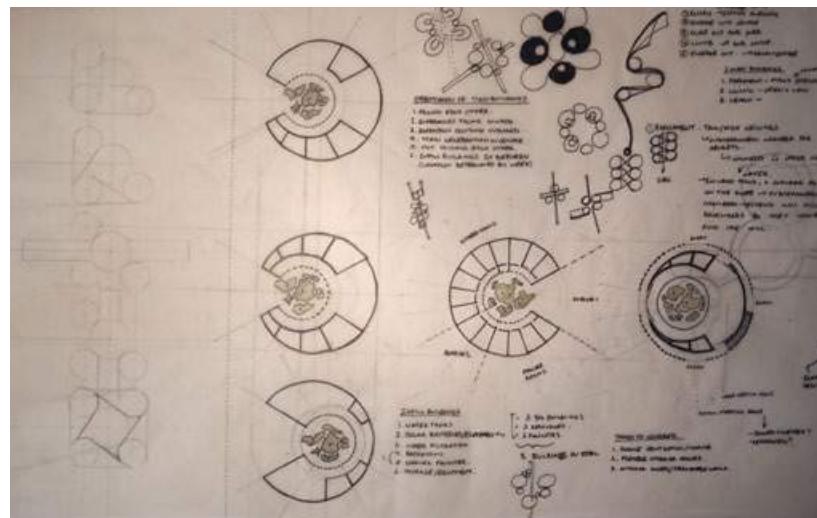
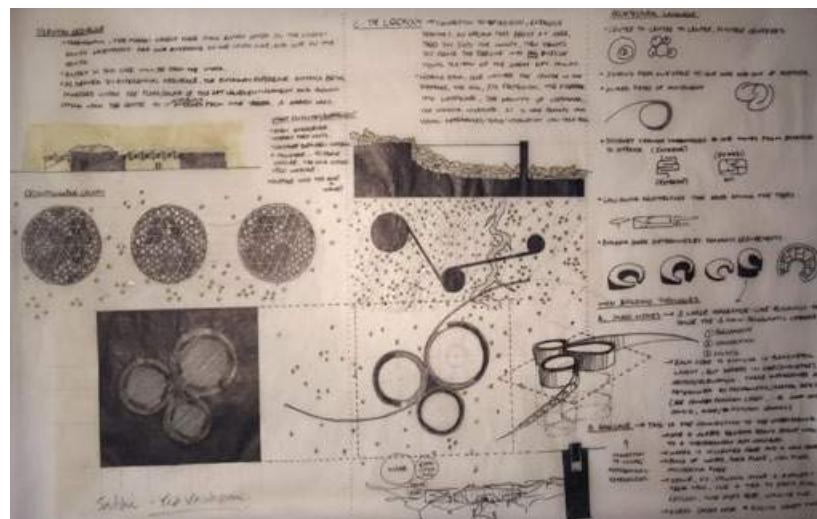
Lesancha Home	latitude	1° 37' 42" S
	longitude	36° 37'44" E
	altitude	1478m
Plateau Site	latitude	1° 37' 39" S
	longitude	36° 37'46" E
	altitude	1478m
Hill Site	latitude	1° 37' 56" S
	longitude	36° 37'24" E
	altitude	1485m

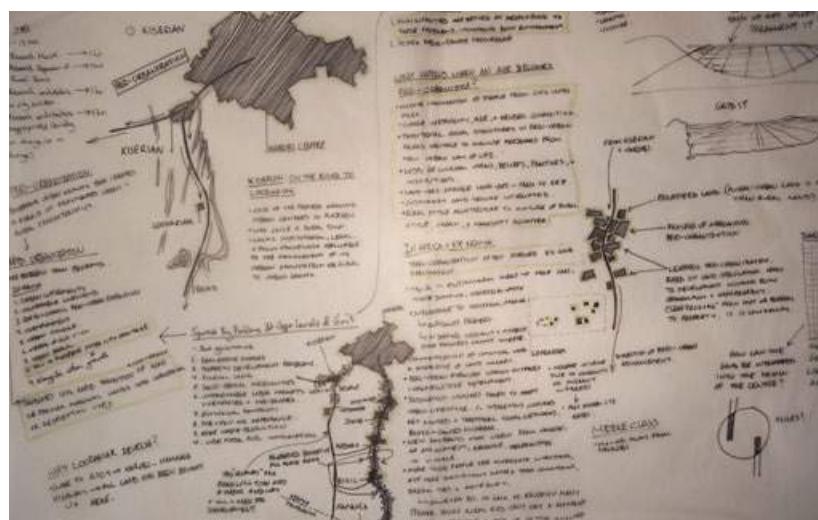
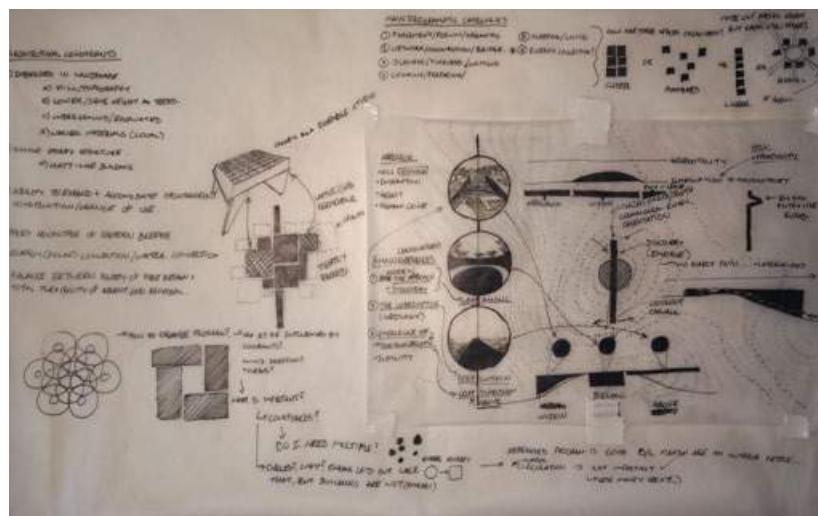
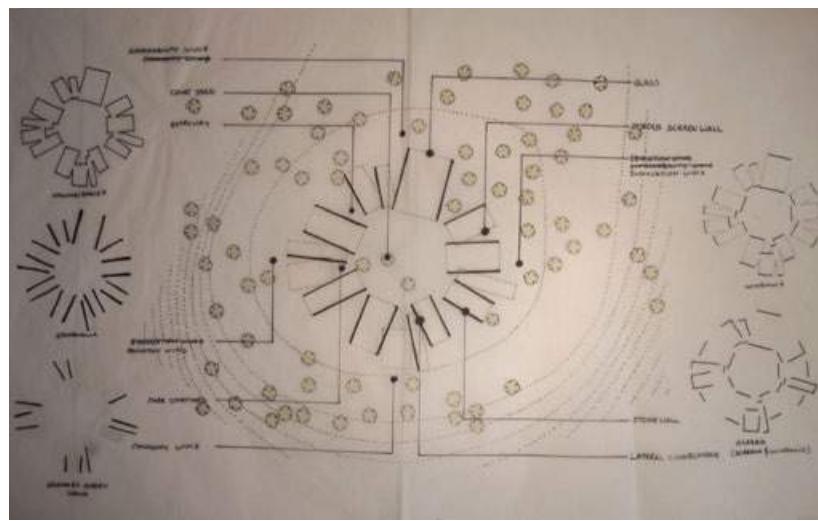
CLIMATE

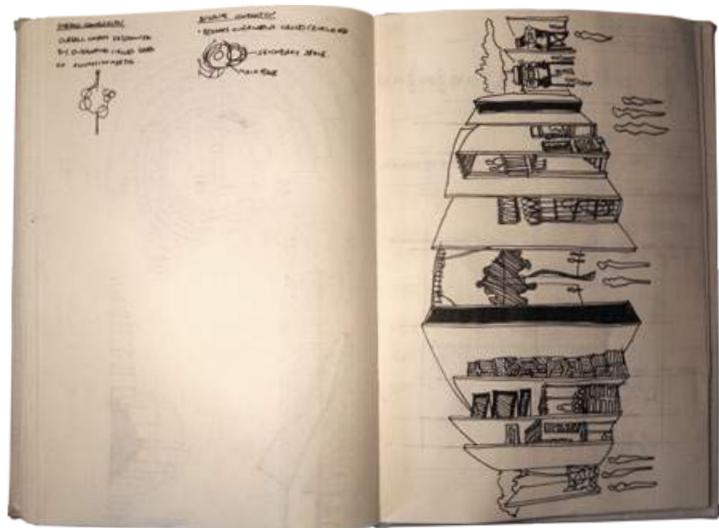
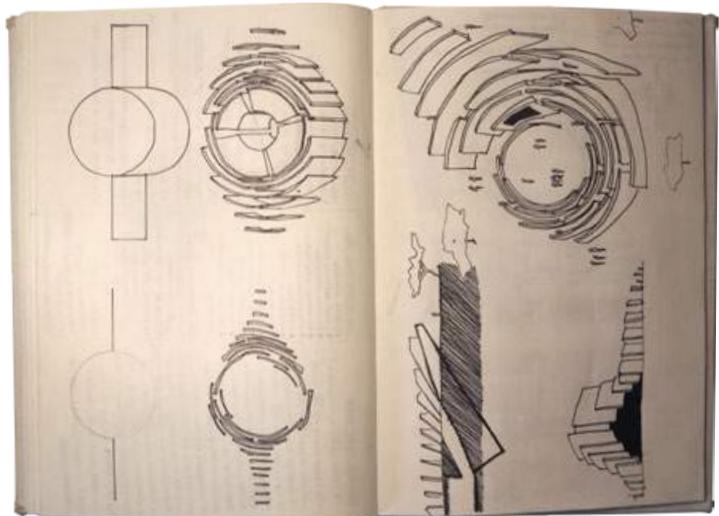
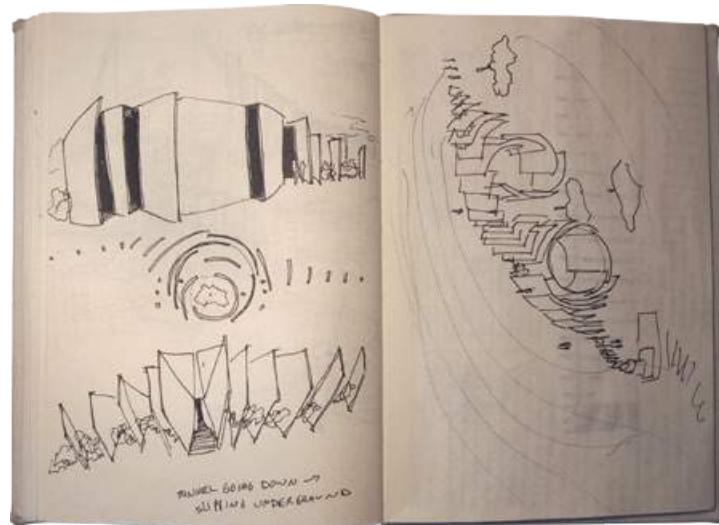
Located just one degree South of the equator, Lookdariak sits in the hot and semi-arid regions of Southern Kenya, within the Great Rift Valley. Receiving only 500 to 1000 mm of rain a year, water is a scarce commodity throughout most of the year. However, Loodariak does experience a considerable rainy season during the spring as well as a short rainy season during the autumn, both of which turn the countryside into a green and lush landscape. However, summers are notoriously hot and dry and may contain long periods of drought. A similar dry period occurs during the winter, but with much lower day and nighttime temperatures.

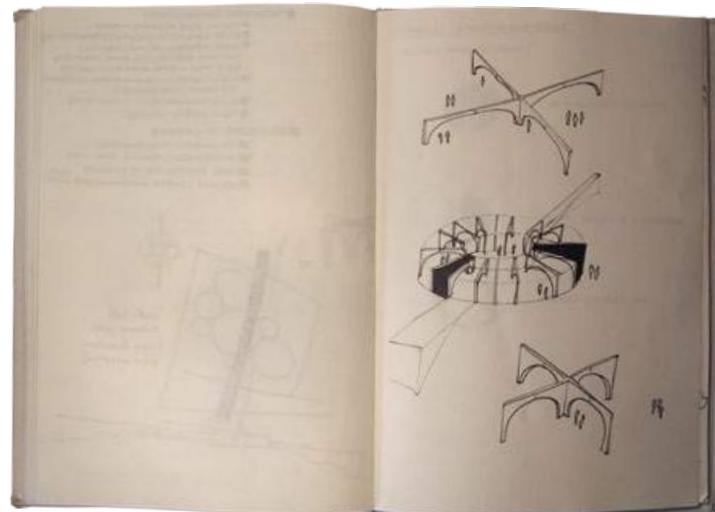
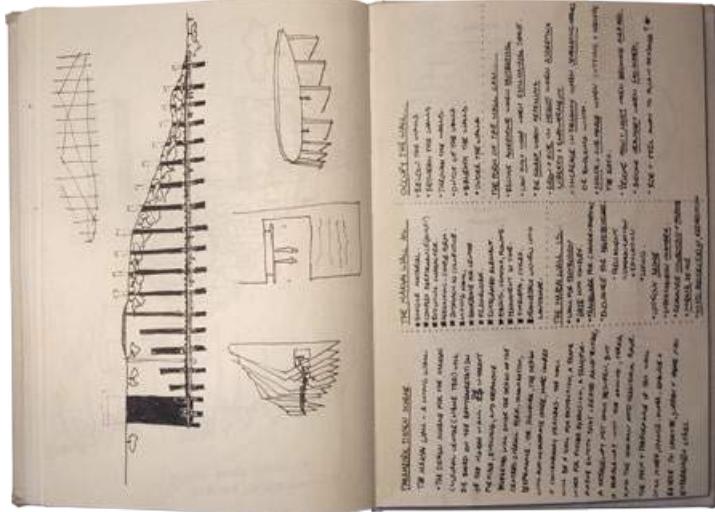
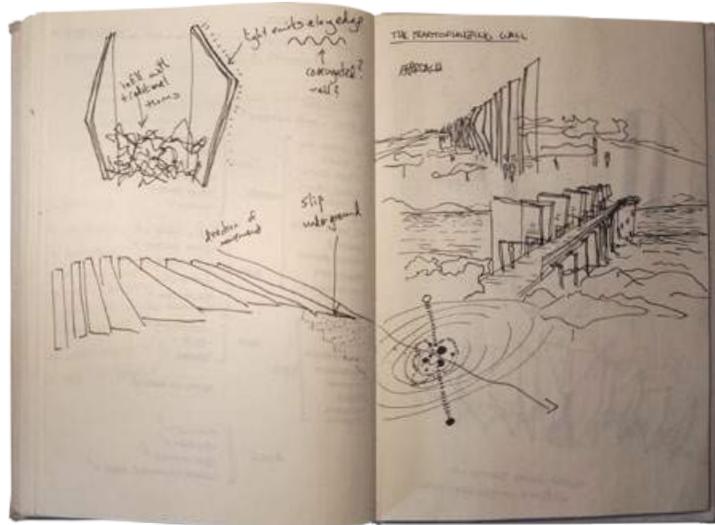


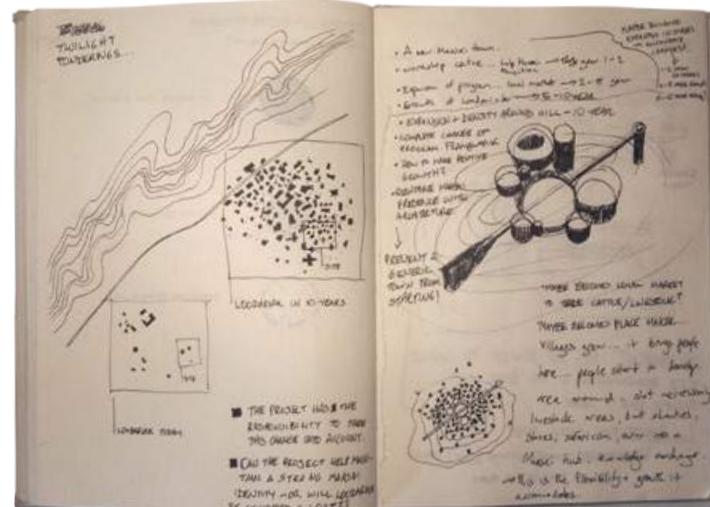
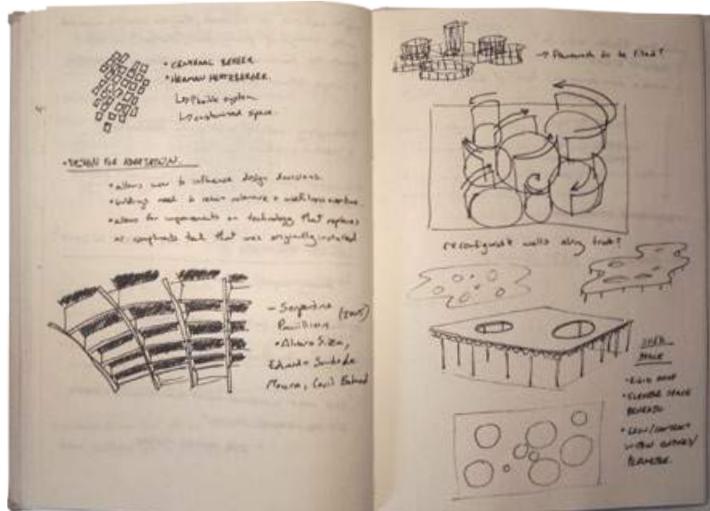
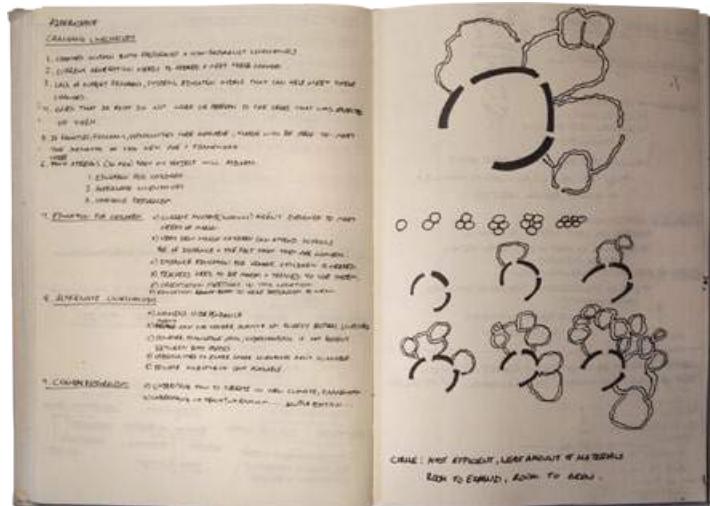
SKETCHES & QUESTIONS

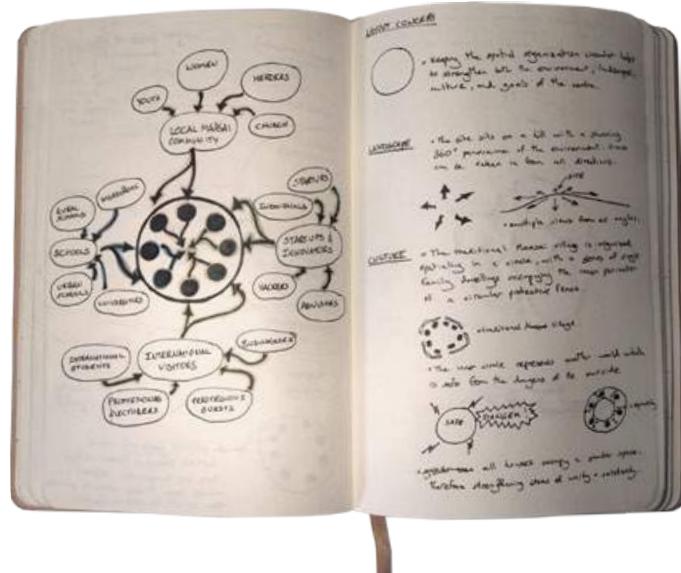
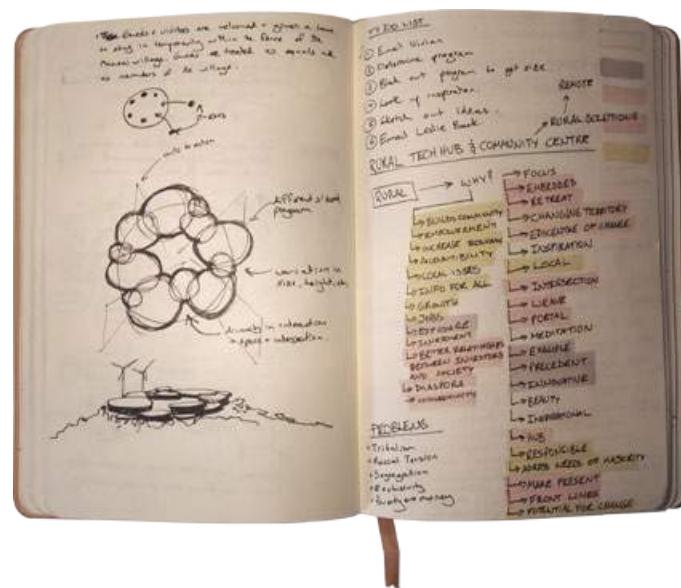
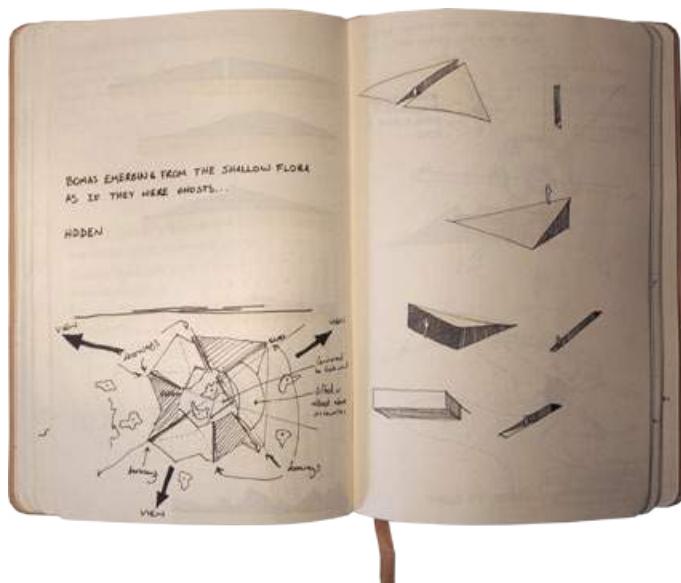


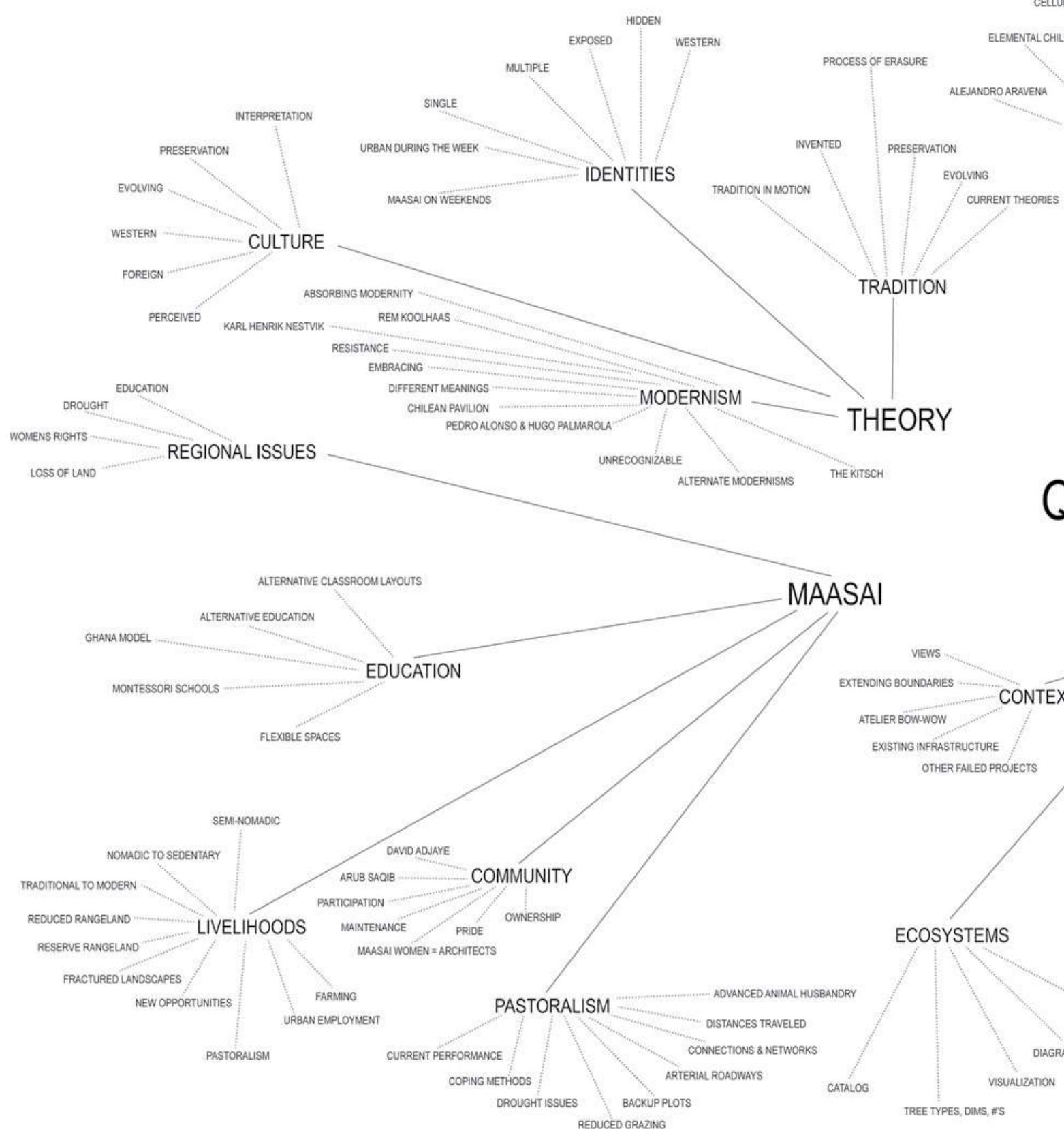


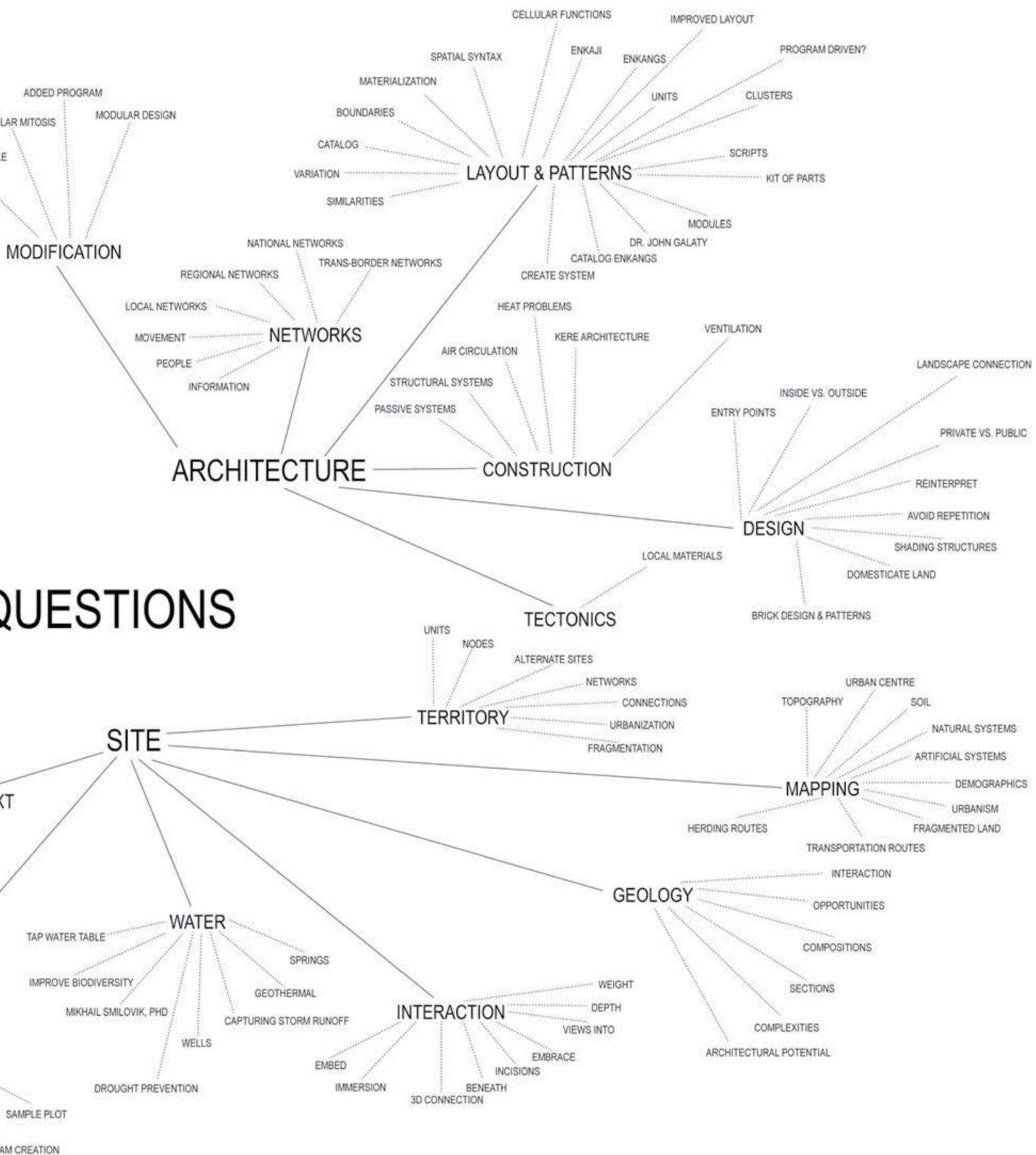




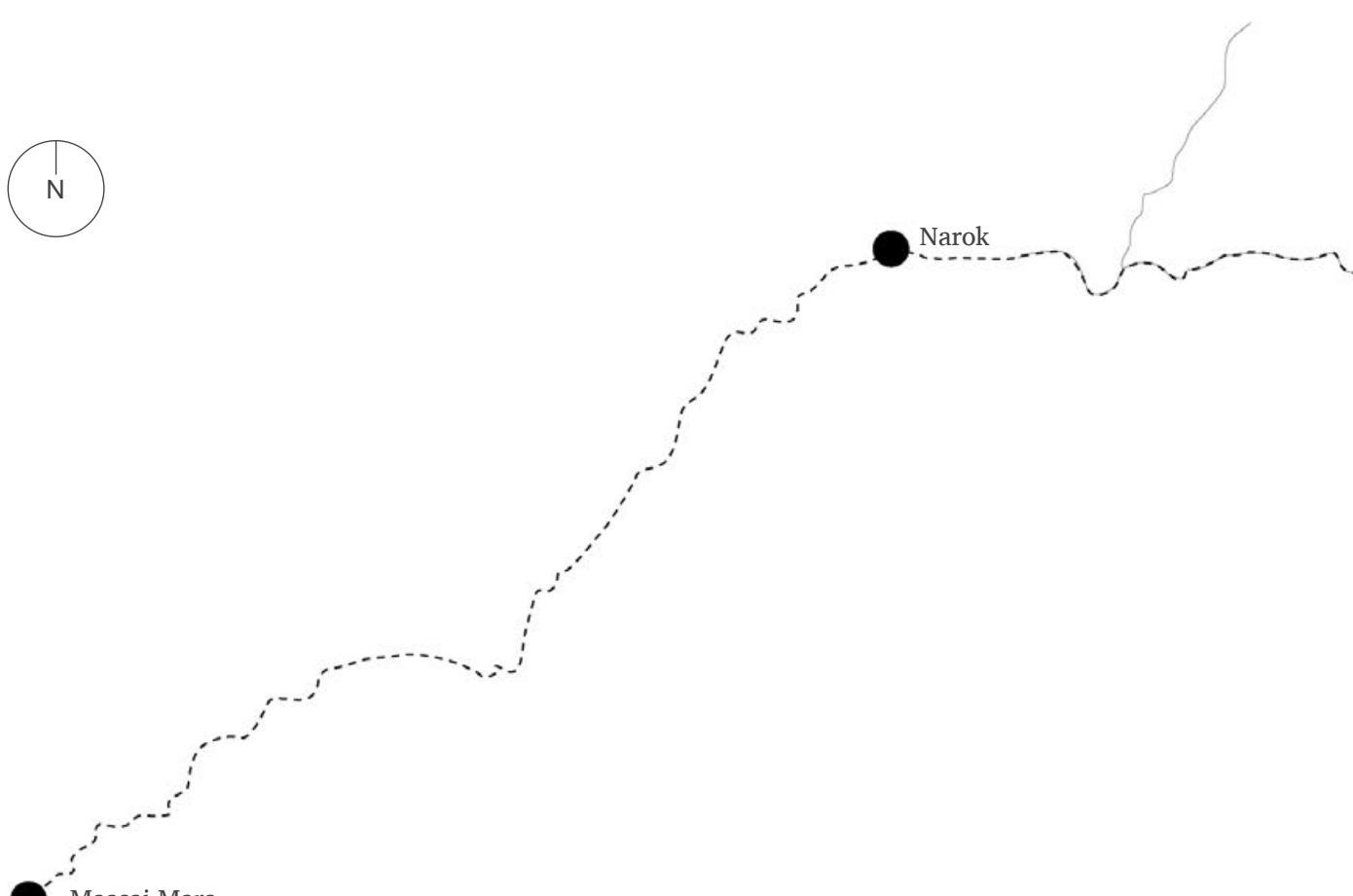
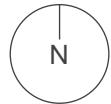






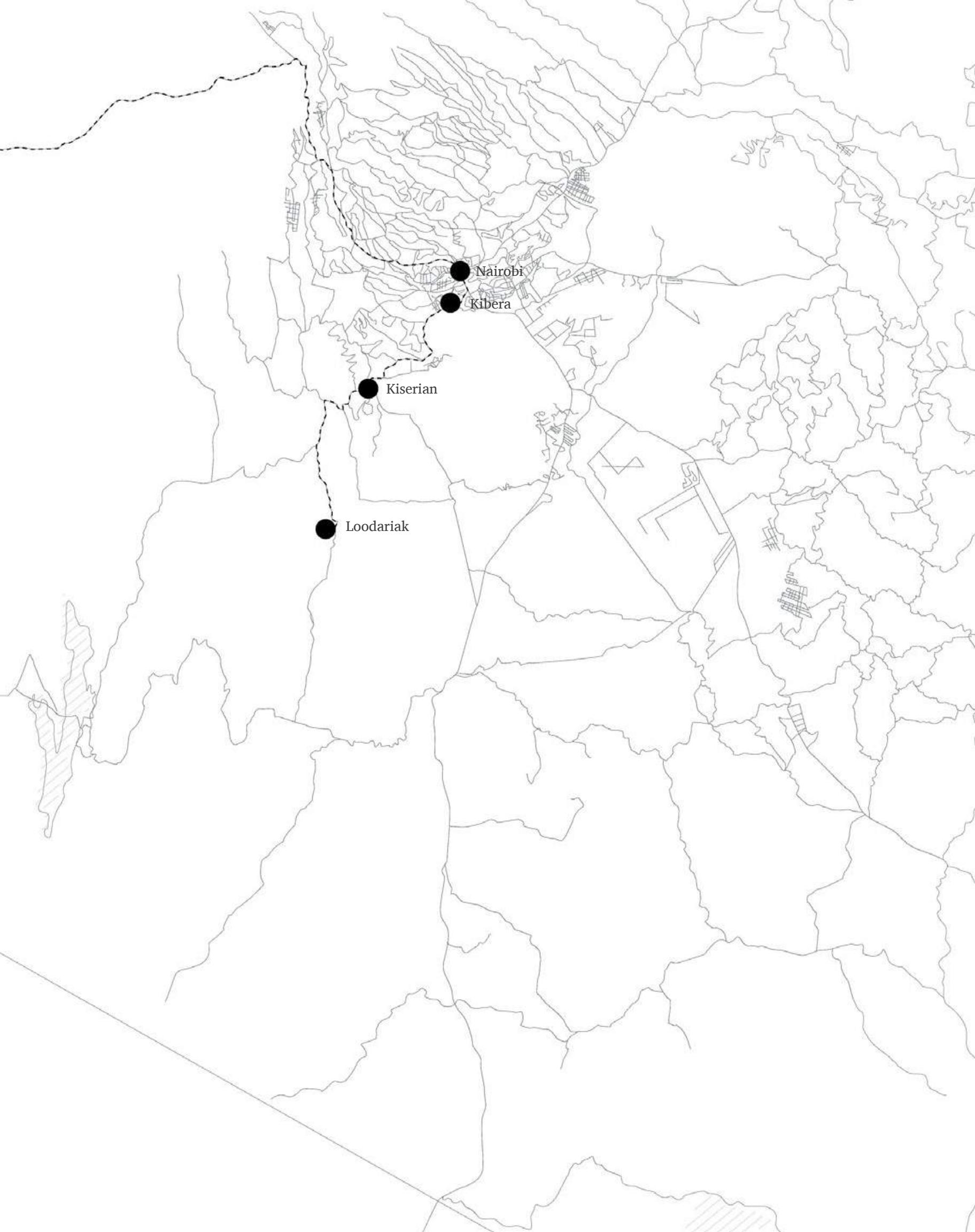


TRAVEL RECORD



JOURNEY

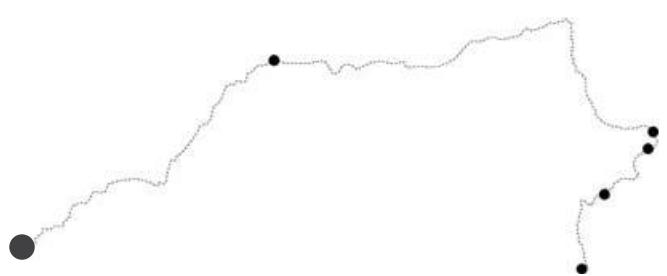
During the summer of 2014, I had the opportunity to accompany a group of four Ryerson business students on a one-month journey across Southern Kenya. Over the course of our one stay, we visited a combination of six unique cities, towns, and regions. These locations include the Maasai Mara Game Reserve, the bustling Maasai town of Narok, the fast-paced and capital Nairobi, the overcrowded slums of Kibera, the Maasai livestock trade town of Kiserian, and the quite rural Maasai town of Loodariak. By following the dotted roadway from left to right, you can trace our month long journey around the country.





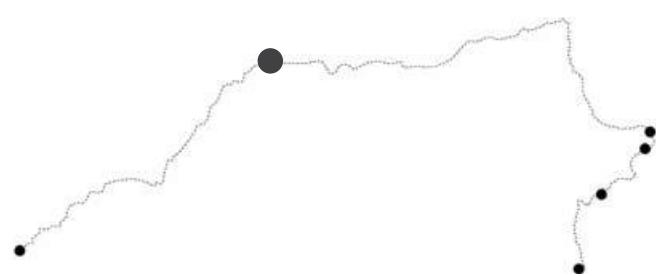
MAASAI MARA

Maasai Mara is one of Kenya's largest nature reserves. It is world renowned for its population of lions, elephants, African Buffalos, leopards and rhinos.





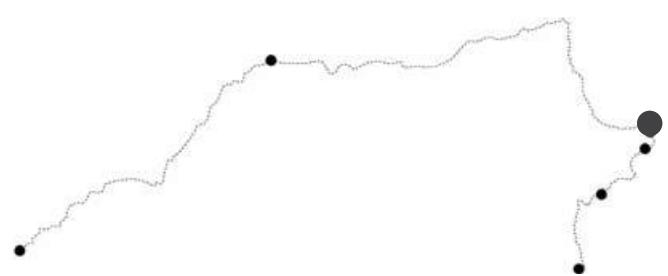
NAROK



Narok is the last major town while driving Westward from Nairobi to Maasai Mara. Home to 40 000 people, Narok's population is mostly Maasai who have moved there from surrounding areas.



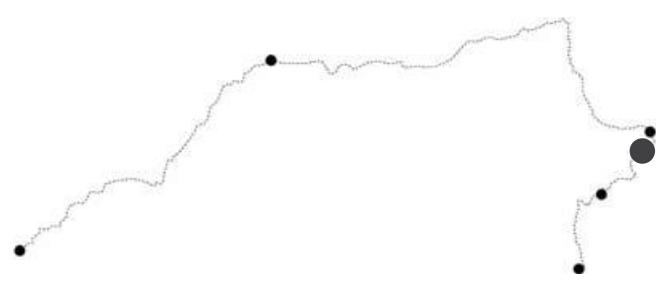
NAIROBI



The fast-paced capital of Kenya. With a rising middle class, business and technology sector, Nairobi is quickly becoming one of Africa's leading economic powerhouses.



KIBERA



Thought to be one of the largest slums in the entire continent, Kibera is located in the Hilly land of South Western Nairobi. With a growing urban population, Kibera will undoubtedly increase in size in the future.



KISERIAN

Kiserian is a Maasai town located just a short drive South of Nairobi. It contains one of the major livestock trading hubs for the Maasai.

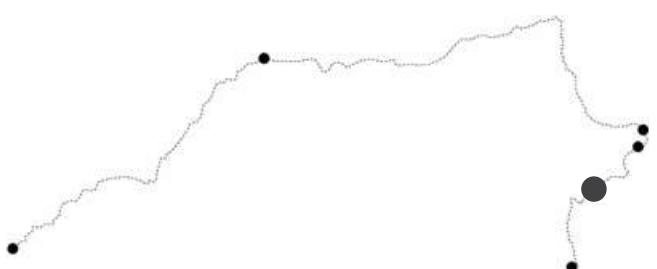
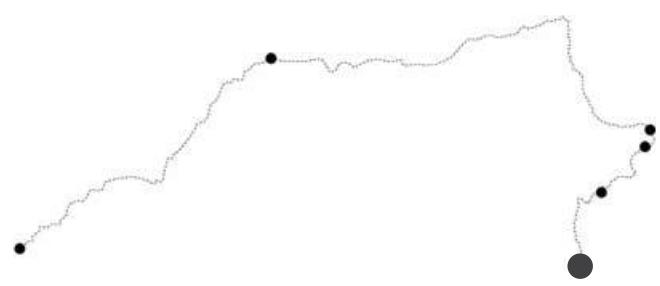




photo taken by Ameena Bajar

LOODARIAK



Loodariak is Maasai village located about an hour and a half's drive South of Nairobi within the Rift Valley and is home to the LeSancha family with whom I lived with for a period of two weeks.



TRAVEL COMPANIONS

(From left to right) Vivian Melelo (Teriano's good friend), Teriano LeSancha (Founder of The SupaMaasai Foundation and former resident of Loodariak), Kalsoom Chohan (Ryerson University student), Reuben (Teriano's cousin), Ma'ayan Jasovich (Ryerson University student), Maral Aghazi (Ryerson University student), Ameena Bajar (Ryerson University student), Me, Dylan DeCoste (Ryerson University student), Abdul Snobar (Ryerson's RIEL Program Manager).

ADVISORS, CONTACTS & COLLABORATORS

ACADEMIC ADVISORS

While completing my thesis at McGill University, I was lucky enough to work with some very knowledgeable, talented, and helpful professors. My primary advisor, David Covo, worked very intensely with me over the past year and provided me with fantastic insight, recommendations, and opportunities that helped enrich and strengthen my final architectural design. My secondary advisor, Ipek Türelı, was a guiding light towards a better understanding of how my project can empower a culture so embattled with problems while simultaneously respecting, protecting and strengthening their vital culture through architecture. Finally, Dr. John Galaty, Canada's leading expert on the Maasai and anthropology professor at McGill, spent many hours with me and greatly contributed to my understanding of the wonderful Maasai culture.



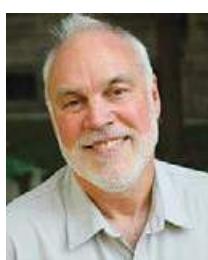
DAVID COVO Primary Advisor

David Covo is an Associate Professor and past Director (1996-2007) of the School of Architecture at McGill University, where he has taught since 1977. He is currently teaching design, drawing and sketching, and professional practice, and he has maintained a private consulting practice since 1976. His research activities are related to his teaching and architectural practice and address drawing and the design process, building science, the special architectural requirements of the disabled, and housing in developing countries. He has worked professionally in Montreal, and in Pakistan in 1976 with John Schreiber and Yasmeen Lari, Architects, and as an academic he had been active in teaching and/or research in Mexico, China, Romania, South Korea and Singapore.



IPEK TÜRELI Secondary Advisor

"The main question that animates my teaching is the role of architecture in the articulation, mediation, and negotiation of political selves. My work recognizes not only the agency of the built environment but also of architects. I have recently lectured and published on how architects have used their professional knowledge to advocate for justice, a topic that has received relatively little attention. My current research spans the full range of social engagement in the profession, from the longer history of humanitarian architecture, such as that of religious missionaries, to more recent efforts by contemporary designers to contribute to social movements. My work supports a new generation of architects interested in social justice by building on the profession's history in this realm, as well as the discipline's record of urban advocacy."



JOHN GALATY Anthropological Consultant

John G. Galaty is a Professor in the Department of Anthropology at McGill University and serves as Secretary of the Commission on Nomadic Peoples of the I.U.A.E.S. he received his Ph.D. in anthropology from the University of Chicago in 1977, after carrying out research among the Maasai pastoralists of Kenya. His primary interests are in the symbolic and ideological aspects of pastoral society and processes of change and development.

COLLABORATING FOUNDATIONS

The SupaMaasai Foundation is a Toronto based company that I have been collaborating with since the Spring of 2014. Our work together began when they first approached me to help with the design of a simple community centre and residence in Loodariak, Kenya. It was this initial design exercise that soon afterwards expanded into my thesis project that I carried out from September 2014 until April 2015. Though my thesis project was carried out independently of The SupaMaasai Foundation, I continued to collaborate and meet with them as frequently as possible in order to keep them updated with my own related work. Though the my final thesis has evolved beyond the initial community centre project, both the accumulated research and the design of the Maasai Knowledge Exchange may provide SupaMaasai with an architectural means to imagine the possibilities and directions Loodariak and the Maasai may move towards in the future.



THE SUPAMAASAI FOUNDATION

SupaMaasai means “Hello Maasai” and is a foundation that strives to improve the standard of living of the Maasai community, especially women and youth.

Through education and entrepreneurship, the foundation empowers Maasai women and youth to have the freedom and ability to choose their future and destiny. The foundation hosts various fundraising events and initiatives to support development projects among the Maasai and increase awareness of the challenges that they face. In addition, it also facilitates international learning experiences through internships and volunteer trips to Kenya.

SupaMaasai was founded by Teriano Lesancha, a Ryerson University graduate and the first from her village of Loodariak (population 10,000+) to attend post-secondary education.



COLLABORATING ACADEMIC INSTITUTIONS

Over the past year, a variety of Universities have been involved in both my academic thesis work as well as professional work with SupaMaasai. For my thesis, McGill University provided me with the tools, facilities, programs, funding, and instructors necessary for my research and design. While working with SupaMaasai, Ryerson University made my trip to Kenya logistically possible through their Experiential Learning Program (RIEL). Finally, Jomo Kenyatta University of Agriculture and Technology in Kenya gave me the opportunity to discuss both the hypothetical logistics of building such a campus in Loodariak as well as insight into the existing opportunities and challenges of designing, constructing, and implementing architecture in Kenya.



MCGILL UNIVERSITY

McGill University is one of Canada's best-known institutions of higher learning and one of the leading universities in the world. With students coming to McGill from some 150 countries, its student body is the most internationally diverse of any research-intensive university in the country. McGill was founded in 1821 thanks to a generous bequest by James McGill, and since then, it has grown from a small college to a bustling university with two campuses, 11 faculties, some 300 programs of study, and 39,500 students. The University also partners with four affiliated teaching hospitals to graduate over 1,000 health care professionals each year.



RYERSON UNIVERSITY

Ryerson is Canada's leader in innovative, career-focused education and a university clearly on the move. It is a distinctly urban university with a focus on innovation and entrepreneurship. Ryerson has a mission to serve societal need and a long-standing commitment to engaging its community.

Guided by a bold Academic Plan, an ambitious research agenda, and a Master Plan to revitalize the campus and surrounding neighbourhood, Ryerson is the most applied-to university in Ontario relative to available spaces, and its reputation with business and community leaders continues to rise.



JOMO KENYATTA UNIVERSITY OF AGRICULTURE & TECHNOLOGY

Jomo Kenyatta University of Agriculture and Technology is situated in Juja, 36 kilometres North East of Nairobi, Kenya.

JKUAT objectives are to provide directly or indirectly or in collaboration with other institutions of higher learning, facilities for university education including agriculture, scientific, cultural, technological, and professional education, and integration of teaching, research and effective application of knowledge and skills to the life, work and welfare of citizens of Kenya. To participate in the discovery, transmission and preservation and enhancement of knowledge and stimulate the intellectual participation of students in the economic, technological, agricultural, professional and cultural development of Kenya.

KENYAN CONTACTS

During my stay in Kenya, I had the opportunity to make a number of important Kenyan contacts. These contacts were either made through existing friends and acquaintances, recommended by collaborators, discovered and connected with online, or met with by chance. Though I had personal meetings with nearly all of these contacts, there were some who I was unable to meet with personally due to scheduling problems and time constraints. Nevertheless, they all gladly provided me with a better understanding of the diverse architecture, design, technology, politics, and culture of Kenya.



JAN ALLEN Architectural Designer

Jan Allen has been in the architecture and design industry for the last 25 or so years and has designed and built exclusively in Africa. He owns and operates two companies. The first company is called byDESIGN Ltd and specializes in the design of high-end safari camps, boutique hotels, and residential projects. His second company is called Canvas byDESIGN Ltd and designs and manufactures tensile tent structures for a variety of architecture projects. One of his more notable projects includes the Mahali Mzuri Camp that was designed for Sir. Richard Branson, the founder of Virgin Mobile, in Maasai Mara, Kenya.



DAVID ANGELL Canadian High Commissioner to Kenya

David Jonathon Robin Angell is a current Canadian diplomat. He is the Canadian High Commissioner to Kenya since 2012. At the same time, he is also cross-posted as High Commissioner to Rwanda and Uganda; as Ambassador designate to Burundi, Somalia and South Sudan, and as Canada's representative to the United Nations Environment Program (UNEP) and the United Nations Human Settlements Programme (UN-Habitat) in Nairobi.



NAEEM BIVIJI Architect & Furniture Maker

Naeem Biviji studied architecture at the University of Edinburgh graduating in 2004. He has worked in an architecture practice in India and had experience as a joiner, builder and site manager in Kenya and Scotland. Naeem draws on this knowledge to bring ingenuity to problem solving both in design development and on site decision-making. In 2005 Naeem co-founded the design partnership Studio Propolis.



GEORGE INDAS Architect

Architect at A.J. Odera & Associates Architects in Nairobi, Kenya. Recommended by Prof. Geoffrey Moriaso Ole Maloiy, the Chancellor of Jomo Kenyatta University of Agriculture and Technology



KAMAU GACHIGI Lecturer, Mechanical and Manufacturing Engineering

Dr. Kamau Gachigi runs the nascent Science and Technology Park at the University of Nairobi (UoNSTP), where he also lectures and conducts research in materials science in the Department of Mechanical and Manufacturing Engineering. UoN-STP incubates companies that fall under at least one of five thematic areas – biotechnology, energy, ICT, minerals/materials and automation/control.



ELIJAH KITAKA Google Program Manager, East & South Africa Outreach

"I initially joined Google as a Business Developer. In that role I identified partners, crafted term sheets, negotiated and closed deals that led to launches of YouTube, Google Trader, SMS Extensions (mainly for Gmail & Google+), and Google Maps data sets. I also identified, evaluated, negotiated, signed, onboarded content and channel partners including YouTube, Adsense, Apps Resellers. I closed deals in Uganda, Kenya, Tanzania, Zambia, and supported deals and activities in Ghana, Nigeria, Ethiopia, and Rwanda."



LESANCHA FAMILY Maasai Host Family

The LeSancha family currently resides a short walk West of the main village centre of Loodariak and were kind enough to welcome me into their family during my three week stay with them. From pastoralism, community leadership, and ties to Canada and the United States, the LeSancha family embodies both traditional Maasai culture and contemporary global connection.



SILVESTER LETOLUAI Secondary School Principal

Silvester Letoluai is currently the principal of Loodariak's Secondary School (High School) where he both teaches and lectures students.



PROF. GEOFFREY MORIASO OLE MALOIY Chancellor of JKUAT

Prof. Maloiy is the current chancellor of Jomo Kenyatta University of Agriculture and Technology. He is currently serving as Professor of Animal Physiology, University of Nairobi, and Director of Science, Institute of Animal Physiology and Biotechnology Research in the same University. Prof. Maloiy was recently awarded an honorary doctorate degree of Science in Comparative and Integrative Physiology by JKUAT.



JOSEPH MUCHERU Google Sub-Saharan Africa Ambassador

Joseph Mucheru MBS is the Google "Sub-Saharan Africa (SSA) ambassador" as well as Country Manager Kenya, based in Nairobi. He joined Google in June 2007 where he leads the delivery of strategy, business planning and operations. Before joining Google he worked at Wananchi Online, a company he co-founded in 1999. He held various roles at the company including Chief Technology Officer, Strategy & Business Director and Chief Executive Officer.



STEVEN NDUBI Architecture Student

Steven is currently enrolled in Jomo Kenyatta University of Agriculture and Technology's undergraduate architecture program where he is currently completing his degree.



CHARLES NEWMAN Architectural Designer

Charles Newman is the Country Director for Kounkuey Design Initiative in Kenya. Charles oversees design, construction, and operational needs for projects in Kibera and the Maasai Mara. Previously, Charles has worked with Rafael Vinoly Architect, Engineers Without Borders USA, the International Rescue Committee, and numerous other small NGOs. Throughout his career, Charles has contributed to hundreds of community design and construction projects in Haiti, Kenya, Tanzania, Uganda and in the Eastern DR Congo.



PROF. P.G. NGUNJIRI Associate Professor at JKUAT

Professor P.G. Nganjiri is currently an associate Professor at Jomo Kenyatta University of Agriculture and Technology as well as a Partner at Conte Design and Chancellor of Maasai Mara University.



ELLA PEINOVICH Founder, Soko

Ella is Founder and CEO of Soko (www.shopsoko.com), an ethical fast-fashion brand that connects fashion consumers & retailers to artisan makers in the developing world. Since graduating from MIT, Ella relocated to Nairobi to fulfill her role as CEO of Soko. As the ideator and driving entrepreneurial force behind Soko, Ella leverages her knowledge of systems design and social entrepreneurship to manage the company's innovative supply chain solution and emerging markets business development.



BETHAN RAYNER Architect & Furniture Maker

Bethan Rayner studied architecture at the University of Edinburgh graduating in 2003. She has worked in architecture practices in the UK, USA and Mexico and had an informal workshop education as a furniture maker. This experience is instrumental in seeing concept through to fabrication through drawing and making. In 2005 Bethan co-founded the design partnership Studio Propolis.



PETER T. OLE SAIKA CEO / Technical Director of Ereto Builders

Peter Saika is the CEO and technical Director of Ereto Builders, a Nairobi based Integrated building & civil engineering contracting firm. Though he is an architect by trade, he deals primarily with the contracting and construction side of the business.



DANIEL SAIVA Chairman, Department of Construction Management, JKUAT

Daniel Saiva currently serves as the chairman for the Department of Construction Management at Jomo Kenyatta University of Agriculture and Technology. He was also actively involved in the collaborative project between the German universities and JKUAT where he acted as the project coordinator.



CALEB TOROITICH Chairman, Department of Landscape Architecture, JKUAT

Caleb Toroitich currently serves as the chairman of the Department of Landscape Architecture at Jomo Kenyatta University of Agriculture and Technology.

