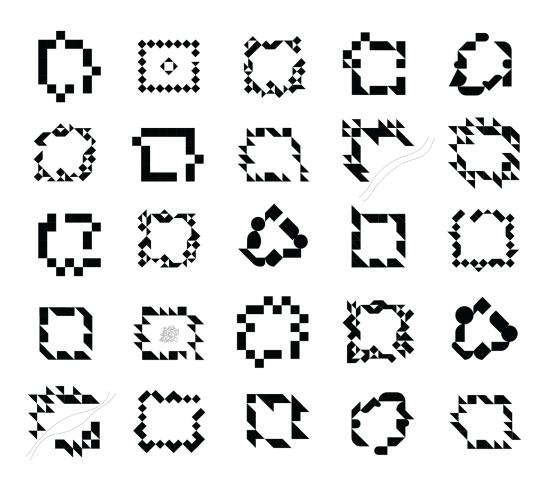
THE GREAT MIGRATION OF THE MAASAI

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SYRACUSE UNIVERSITY SCHOOL OF ARCHITECTURE DIRECTED RESEARCH 2024

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SYRACUSE UNIVERSITY SCHOOL OF ARCHITECTURE

DIRECTED RESEARCH PROPOSAL

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NOBODY CAN SAY HE IS SETTLED ANYWHERE FOREVER: IT IS ONLY THE MOUNTAINS WHICH DO NOT MOVE FROM THEIR PLACES.



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EXISTING MAASAI ARCHITECTURE

The MaasaiA Nilotic ethnic group inhabiting northern, central and

southern Kenya

Manyatta-

A settlement of Maasai people inside a common fence

Boma-

An enclosure, typically a fence of thorn bush, set up to protect a

Maasai settlement.

INTRODUCTION

ESUJ ERASHE NG'EJUK EMUSANA (MAASAI) A NEW IDEA FOLLOWS AN OLD ONE. In the quest to create new emerging cities that house more and do more, we seem to neglect the importance of using traditional architectural methods. Perhaps that is because some of these methods from tribes that are so rich in culture have never been shared. However, these levels of craftsmanship and skill are being wiped away with new construction methods that are cheaper and mass-produced.

As the world becomes increasingly connected and technology continues to advance, it's essential to consider what the future might hold for cultures that exist on the 'edge' of society. These are typically communities that live away from big cities, the latest technology, and innovation.

While it's true that advancements in technology can bring many benefits, such as improved communication and access to information, they can also have negative impacts. For example, they can lead to the erosion of local cultural practices and traditions and can make it more difficult for people to maintain a connection to their heritage and history.

Additionally, as more people move to urban areas, rural communities can be left behind and struggle to keep up with the pace of change. This can lead to feelings of isolation and alienation and make it more difficult for people to access the resources and opportunities that they need to thrive. Given these challenges, it's important for us to consider how we can support and empower communities on the 'edge' of society.

This might involve investing in infrastructure and resources that can help these communities stay connected and engaged with the broader world while also preserving their unique cultural practices and traditions. It could also involve creating more inclusive and equitable systems that ensure that everyone has access to the resources and opportunities they need to succeed, regardless of where they live or what their cultural background might be.

In this world, where we are constantly striving to create something new, we neglect the use of the old. The lessons it has taught us, the ideas it has created. Everything that is 'new' stems from something that is 'old'. It is 2024, and while we now have skyscrapers that

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work with wind turbines or hotels to be built in space, we still have communities cut off from these advances in technology and innovation that still survive on the bare minimum-using methods that still tie together fours sticks to create a shelter. So, how do we bridge that gap? How can we supplement traditional age-old technology with new advances instead of replacing it as a whole?

There are stories told through every stick, stone and footstep of a tribe that is so rich in culture, identity and tradition, and if we replace them as a whole we will loose everything great about it.

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CONTEXT



Kenya is home to 43 tribes, and each has their own identity, essence, and tradition. It is only when we get to know more about them that these aspects are genuinely shown. Each material, style, or skill has been passed down through generations spanning thousands of years, and till today, these structures still stand. One of the most significant Tribe, that has being a pillar of the Kenayn identity has bee the Maasai tribe.

The Maasai tribe is a semi-nomadic ethnic group that is predominantly found in Kenya and Tanzania. They are well-known for their distinctive customs, dress, and way of life, which have remained largely unchanged for centuries. The Maasai people have a rich cultural heritage that is characterized by a strong emphasis on community, family, and tradition.

The Maasai originated in the Nile basin and migrated to their present-day homelands in the 15th century. They are known for their close relationship with the natural environment and their reliance on traditional methods of agriculture and animal husbandry. The Maasai are also skilled hunters and warriors, and their traditional way of life has been shaped by their need to protect themselves and their livestock from predators.

In Maasai culture, cattle are considered a symbol of wealth and are central to their way of life. Cattle are used for milk, blood, and meat, and are also used as a form of currency. The Maasai are known for their distinctive style of dress, which includes brightly colored shukas (cloths) and beaded jewelry. The tribe have a strong sense of community and family, and they place a high value on traditional practices and rituals. For example, coming of age ceremonies for boys involve circumcision and initiation into manhood, while girls undergo a similar ceremony that marks their transition into womanhood. Despite facing numerous challenges over the years, including displacement from their lands and conflicts with neighboring tribes and governments, the Maasai have maintained their traditional way of life and culture.

These aspects all play a large role in the way the go about their daily lives, the way they create and the way the exist. Every ideology holds more weight within every aspect of their identity. Today, they continue to live in many rural areas of Kenya and Tanzania, and

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their unique customs and traditions continue to fascinate people around the world.

In many communities across the world, women are typically tasked with looking after children and cooking. However, in these tribes, their talents are used on a bigger scale. Women across Kenya have perfected the skills of weaving and bead-making; the intricate design and colors, mixed with skill and years of practice, have found themselves built up and mimicked into larger structures that many can call home. By creating structures that mimic these design styles, these houses are not only fast to create but can be easily taken down into a kit of parts, ready to journey to the next settlement with the nomadic tribes.



For many women, these methods are a way of creating livelihoods and being tasked to do it on a larger scale for their communities is a method of learning new skills and being able to teach them to their youngsters for future generations.

In many Kenyan tribes, particularly those that are nomadic, traditional homes are created using a technique called wattle and daub. This involves weaving a frame of sticks or bamboo and then covering it with a mixture of mud, clay, and cow dung. This method has been used for centuries and is still used today in many rural areas.

The women in these tribes have perfected the skills of weaving and bead-making, and they have found ways to incorporate these skills into the construction of their homes. For

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example, they use the weaving technique to create intricate patterns on the walls of their homes. They use different colors of grass, bark, and other natural materials to create the patterns, and the end result is a beautiful and unique design that is specific to their tribe.

Similarly, the women use beads to decorate the walls of their homes. They create patterns and designs using beads of different colors and sizes, and the end result is a stunning and intricate display of craftsmanship. These methods are not only beautiful but also practical. The wattle and daub construction method is very durable and can withstand harsh weather conditions, making it ideal for nomadic tribes that need to move their homes frequently.

The use of natural materials also makes these homes very sustainable and environmentally friendly. In addition to being used in the construction of traditional homes, these weaving and beading techniques are also used to create other items such as clothing, jewelry, and baskets. These items are not only functional but also serve as a way to preserve and showcase the rich cultural heritage of these tribes.

For centuries, the nomadic people of the Rendille tribe have journeyed to find better pastures so that their communities may thrive. They have perfected building methods to create temporary shelters. However, the main focus has always been on simply having a shelter, but not much thought goes into making a structure that not only acts as a shelter but also functions to provide a safe haven from strong winds, rains, extreme heat, and flooding. Due to unforeseen weather catastrophes, villages are washed away, burnt down to ashes, or blown away every year.

This project aims to supplement traditional architecture. Instead, it strives to re-imagine a way in which nomadic populations and many others can benefit from global styles of architecture and integrate these ideas with their own in the hope that they can live a higher standard of life while maintaining all the aspects that create their identity.

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In addition to finding ways to mitigate human-wildlife conflicts and promote gender equity through architecture, this project also has a focus on sustainable design. One of the main goals is to find ways to enable the re-use of materials in building structures that can be easily put up, taken down, and transported.

By using locally sourced and recycled materials, we can reduce the need for new, unsustainable construction materials, which in turn can help curb deforestation and habitat destruction. Additionally, by creating structures that are flexible and adaptable, we can reduce waste and increase the lifespan of the building, ultimately contributing to a more sustainable future.

This project seeks to address multiple interconnected issues in Maasai communities through architecture and sustainable design. By promoting co-existence between humans and wildlife, challenging traditional gender roles, and incorporating sustainable practices into building design, we can help create more equitable and environmentally conscious communities.

This project aims to re-imagine a future for the Maasai Tribe, which originates from Northern Kenya. The Maasai Tribe, which is so rich in culture and tradition, is also a tribe that is slowly being wiped out by the effects of climate change. They are a tribe that, if not supported, will cease to exist, and their identity will never be known. I have seen firsthand the detrimental effects of the inequalities in access to clean air, food, water, energy, and land for many of those around me. In Kenya, housing plays a significant role in all of this, as do the materials used.

In Maasai culture, it is common for men to have larger homesteads than women. This is often due to the traditional division of labor, where men are responsible for herding livestock and protecting the community. At the same time, women are responsible for domestic tasks such as cooking and cleaning. Gender inequality has been a persistent issue in Maasai culture, with cultural norms that tend to favor men. Women in Maasai communities have traditionally been assigned domestic roles, such as cooking and cleaning, while men have been responsible for herding livestock and protecting the

PROJECT INTRODUCTION

ENKONGU NAIPANG'A ENGEN
CLEVER IS THE EYE THAT HAS TRAVELED.

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cleaning, while men have been responsible for herding livestock and protecting the community. This division of labor has led to a gender imbalance in terms of access to education, economic opportunities, and decision-making power.

As a result, Maasai women have faced significant challenges in terms of gender inequality and have been largely excluded from participating in community decision-making. This has limited their ability to voice their concerns and contribute to the development of their communities.

Through architecture, it is possible to challenge traditional gender roles and promote gender equity. By designing spaces that are inclusive and accessible to all members of the community, regardless of gender, we can help create a more equitable society. This may include creating spaces that are flexible and adaptable to the changing needs of the community, promoting gender equity in the allocation of resources and space.

The Maasai Tribe is just one of many vanishing tribes in East Africa. These tribes are facing an existential threat due to the impact of climate change on their traditional way of life. For the Rendille Tribe, this means the loss of their nomadic lifestyle, which is central to their culture and identity. As their grazing lands become more arid and water sources dry up, the Rendille people are forced to abandon their ancestral lands and move to urban areas for work and sustenance. This has led to a loss of their cultural heritage and traditions, as well as their language and storytelling.

OBJECTIVES

- To create architecture that demonstrates a sophisticated development of design concepts related to kit of parts, modularity, flexibility, and transportability
- To apply large and small-scale architectural technological and material advances to traditional methods of design and construction in nomadic populations.
- To speculate on how architectural design can enhance cultural rituals and societal relations within Nomadic populations.

INFLUENCES

EXISITNG AFRICAN ARCHTIECTURE

Africa is a continent full of diverse cultures and communities, each with its own unique history and traditions. It is fascinating to see how these communities have interacted with each other over time, borrowing ideas and designs from one another to create new forms of art and architecture that reflect their shared experiences.

As the environment and society have changed over time, so too have the design processes used by these communities. They have had to adapt to new challenges and opportunities, such as changing weather patterns, the arrival of new technologies, and the emergence of new cultural practices.

Despite these changes, however, the spirit of collaboration and mutual learning that has characterized African design for centuries remains as strong as ever. Today, African designers continue to draw inspiration from the rich history and diverse cultures of the continent, creating innovative and beautiful works of art and architecture that reflect the complex and multifaceted nature of African society. African 'huts' are traditional structures that have been used for centuries across the continent. These huts are typically made using locally sourced materials such as mud, grass, and wood. They are often circular in shape and have thatched roofs.

One example of an African hut is the rondavel, which is a traditional dwelling that is common in southern and eastern Africa. Rondavels are typically made using mud and thatch and are circular in shape. They have a conical thatched roof and a central support pole. Rondavels are often used as family homes, but they can also be used as guesthouses or lodges.

Another example of an African hut is the beehive hut, which is a traditional dwelling that is common in parts of sub-Saharan Africa. Beehive huts are typically made using mud and grass and are circular in shape. They get their name from their distinctive beehive-like appearance. Beehive huts are often used as family homes and can be found in rural areas across the continent.

In addition to huts, there are other traditional African architectural structures such as the mud mosques of West Africa, the rock-cut churches of Ethiopia, and the stilted houses of the Matakam people in Cameroon.

These structures are not only functional but also have cultural and spiritual significance for the communities that build and use them and have found ways to adapt to chnagign climates over the years.

For instance, some tribes in the African savannah build homes with thatch roofs that are made from grass or palm fronds. These types of roofs are designed to be flexible and can withstand strong winds during the rainy season. Additionally, the design of these homes promotes good ventilation, which helps to keep the interiors cool during hot weather.

In other parts of Africa, homes are built with mud bricks that are designed to keep the interiors cool during hot and dry seasons. The bricks are made by mixing mud with water and then shaping them into bricks, which are then left to dry in the sun. The walls of these homes are thick, which helps to keep the interiors cool during the day and warm at night.

In areas where flooding is a common occurrence, some tribes build homes on stilts to keep them above the water level. This design helps to protect the homes and the people living in them from the dangers of flooding.

EXISTING KENYAN ARCHITECTURE

Kenya is home to 43 tribes, each with their own distinct culture, traditions, and architectural styles. Each tribe aims to emphasize their ideologies and cement a lasting identity for themselves.

- 1. Maasai Manyatta The Maasai tribe is known for their distinctive Manyatta homes, which are built using sticks, mud, and cow dung. Manyattas are circular in shape and have a thatched roof made from grass. The homes are often clustered together to form a village, with a fence made from thorny branches for protection.
- 2. Kikuyu Thatched Hut The Kikuyu tribe is the largest ethnic group in Kenya, and their traditional homes are made using mud and thatch. The huts are rectangular in shape and have a thatched roof, which is supported by wooden poles. The walls are often plastered with cow dung for insulation.
- 3. Turkana Manyatta The Turkana tribe is a pastoral community that lives in the arid northern part of Kenya. Their traditional homes, known as Manyattas, are made using branches, stones, and cow dung. The homes are built in a circular shape and have a thatched roof made from grass.
- 4. Samburu Manyatta The Samburu tribe is a pastoral community that is closely related to the Maasai. Their traditional homes, known as Manyattas, are built using sticks, mud, and cow dung. The homes are circular in shape and have a thatched roof made from grass.
- 5. Pokot Manyatta The Pokot tribe is a pastoral community that lives in the western part of Kenya. Their traditional homes, known as Manyattas, are made using sticks, mud, and cow dung. The homes are circular in shape and have a thatched roof made from grass.



THE POKOT NEAR LAKE BARINGO

These houses are built by the women with reddish mud, and so they are permanent. They are more or less square with a pointed roof made of grass or a similar vegetable material.



THE GABBRA

Their houses are rather big and tall, semispherical and they look rather strong. They use poles as the main structure, but you hardly see them form outside, only in the bottom part. Covered with colourful robes all around. Roof is dried palm leaves.



THE SAMBURU

These houses maintain a semispherical shape on the upper part, but they are rectangular and have a flat roof of different materials such as tarp attached with ropes. They are not very tall. Smallgaps withing the sticks let in light and air.



THE POKOT

Their houses are round and not made of mud but of thin branches intertwined horizontally and vertically, with a single opening on one side and no windows. The light filters from outside through the door and between the branches.



THE TURKANA

These houses maintain a semispherical shape on the upper part, but they are rectangular and have a flat roof of different materials such as tarpaulin attached with ropes. They are not very tall. Smallgaps withing the sticks let in light and air.



THE EL MOLO

The main material used looks like dried interweaved palm leaves. Some of the houses have a corrugated aluminum sheet and a door, and the majority are square and not very tall.



THE KIKUYU

These houses are constructed with poles and lattices made from saplings and filled with mud, brushwood walls or planked with hewn depending on the hut. The Roofs are thatched with grass. A layer of grass is added before the beginning of each rainy season.



THE DASSANETCH

Star Wars Film Refence.
Built using corrugated aluminum sheets all over. Scattered in a harsh area, shine under the torrid heat. There are no windows and a thin smoke floats in the air





THE RENDILLE

They are rather large and tall, of semispherical shape and they use all sort of colourful fabric in the outside, from traditional shukas. The top part is made of a kind of thick dried grass and the walls are made of vertical poles.



THE BORANA

Similar to the Pokot, these houses are built by the women with reddish mud, and so they are permanent. They are more or less square with a pointed roof made of grass or a similar vegetable material.



THE OROMA

These huts comprise of a wooden frame covered with woven mats and grass. Most of their huts / houses are made from the pliable saplings of Danisa trees, doum palm leaf fibres and grass mats. These houses are about two meters high.



THE MAASAI

Utilizing a series of woven sticks plastered with cow dung, human urine, and mud. The Maasai, who are a nomadic tribe, create structures that are temporary. Covered with a thatch roof to protect from rains.



THE LUO

These houses utilize thick red mud walls to create a circular house that is covered with a thick roof made from dried leaves and grass.



THE DASSANETCH

The materials used for building the houses are tarpaulin, plastics and sacks covering a fragile structure made of thin poles. Outside, long ropes make sure the whole structure does not blow away.



THE KALENJIN

The temporary huts are loafshaped and made from mud, sticks, grass, cow dung and urine. The structure with timber poles is fixed directly into the ground and interwoven with smaller branches and twigs. The roof is covered with layers of dried grass.

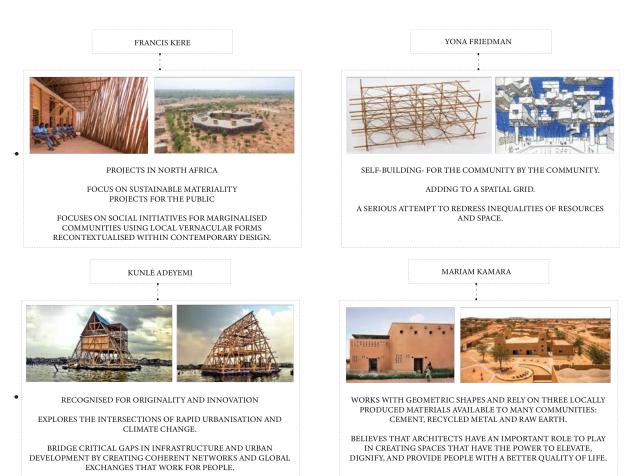


THE TAITA

The houses are built with large sticks plastered with mud. They have a pitched roof covered in thick thatch to prevent water from entering. There is one entrance and light enters through little gaps in the walls.

GLOBAL ARCHITECTURAL INFLUENCES

Supplementing traditional African architecture styles with ideas and advances created by global architects can bring about a new era of architectural design that is both functional and productive while still aligned with traditional aspects. By combining the knowledge and experience of local communities with the expertise of global architects, it is possible to create buildings that are not only sustainable and efficient but also culturally meaningful.



INFLUENCES IN FILM

Film and architecture have been intertwined since the birth of the moving image. Both media are cultural expressions concerned with space, time, and people – addressing the human condition through spatial narrative. The built environment and the atmosphere architecture creates plays an essential role in visual storytelling, from modernist dwellings to futuristic landscapes. Cinema has shaped the collective perception of urban, suburban, and rural spaces. The architect, like the director, is in charge of turning fiction into reality, of creating something from scratch that will be the foundation of a new world through physicality or imagination.

Just as architecture builds movie scenes, cinema can construct spaces with light, shadows, scale, and movements; for filmmakers with a study or academic approach to architecture, such as Sergei Eisenstein, the absence of concrete physical limitations allows cinema to go even further than architecture in terms of spatial experiments. As said by Juhani Pallasmaa, "the inherent architecture of cinematic expression and the cinematographic essence of architectural experience" is a complex, often multifaceted dialogue between both disciplines. This 'complex notion' is something I want to explore; further, I want to understand how Architecture and Film have and continue to work hand in hand to construct the modern society and built environment that we know today. Architecture & film generate a subversive consciousness that allows people to envision the unlikely, to discover what was lost, and to re-imagine our urban future.

In relation to traditional architecture, it's interesting to see how films have used these traditional homes to add to the authenticity of films. Still, even as they look into the future, they strive to preserve and showcase traditional methods. Few films have embraced these aspects of the culture of tradition behind dwellings around Africa, in particular East Africa. The Black Panther, directed by Ryan Coogler with Hannah Beachler as the set designer, as well as Pumzi, directed by Wanuri Kahiu, took inspiration from nomadic tribes across Kenya.

Both films focused on the ideas of

- Africanfuturism Pumzi falls squarely within the genre of Africanfuturism. These are motifs commonly found in Africa, including, but not limited to, the presence of barren landscapes and the central role of water.
- Ecocriticism Functions as a critique on ecotopic narratives. Through technology, all materials can be recycled in a closed loop no-waste system, yet this system is part of a set of institutional oppressions in which bodies (and minds) are perpetually monitored, invaded, and used as resources.

Film has the power to save the identity of tribes by preserving them and making them eternal. To educate generations on what once was.



Stills from Marvels Black Panther



Stills from

Marvels Black Panther- Ryan Coogler Pumzi - Wanhuri Kahiu



THE MAASAI

 $\label{eq:imelakua} \textit{IMELAKUA AIG INCHU} \\ \text{HOME IS NOT FAR AWAY WHEN YOU ARE ALIVE}.$

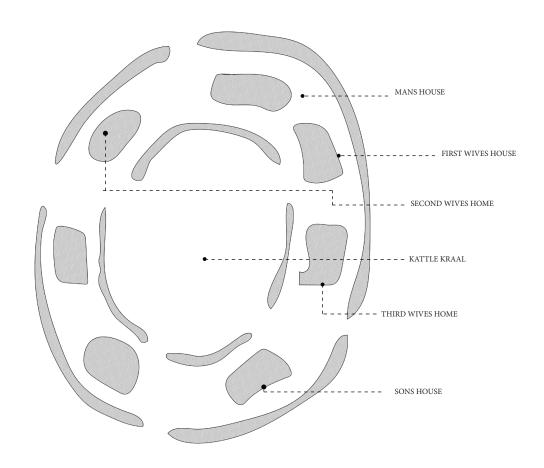
For centuries these nomads have traveled to find home, to find better greener pastures for their cattle and so a better future for their communities and families. However through time, the Maasai have created their homes as simply a structure that would protect them from the elements, until they journey again, which raises concerns about their saftey and well being.

The Maasai homestead, also known as a manyatta, is traditionally made up of several small huts arranged in a circular pattern. The huts are constructed using a combination of mud, cow dung, and grass, and are typically built by the women of the tribe.

The circular arrangement of the huts is designed to provide security and protection for the family, with the livestock being kept in the center of the circle at night to protect them from predators. Each hut is assigned a specific purpose, with one hut being used for cooking, another for sleeping, and others for storage and other activities. The huts are often decorated with brightly colored textiles and beadwork, which are also made by the women of the tribe.

The homestead is typically surrounded by a thorn fence, which serves as an additional layer of protection against wild animals. The Maasai homestead is a reflection of the tribe's strong sense of community and family, with several families often living together in the same manyatta. The homestead also plays an important role in the tribe's social and cultural life, with many traditional ceremonies and rituals taking place within its walls.

Their homes are a reflection of their deep connection to the natural environment and their need to adapt to changing conditions. They are constructed using materials that are readily available and are designed to be flexible enough to meet the needs of the community as they move from one location to another.



MAASAI NOMADIC WEATHER TENDENCIES

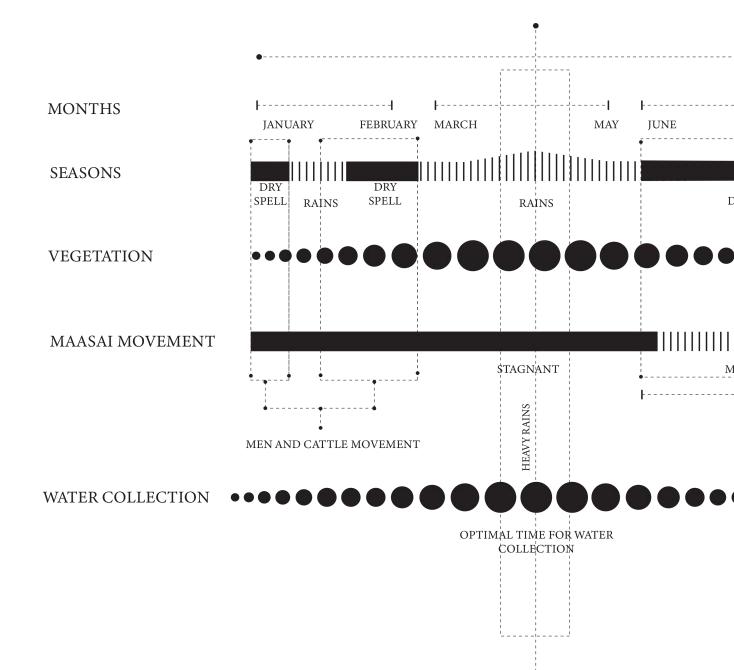
The Maasai people are a semi-nomadic ethnic group, which means that they move from place to place depending on the season and availability of resources. They generally move twice a year, during the dry season and the rainy season. Their way of life is closely tied to the natural environment, and their homes reflect this connection. The design of these homesteads changes with the seasons and the needs of the community.

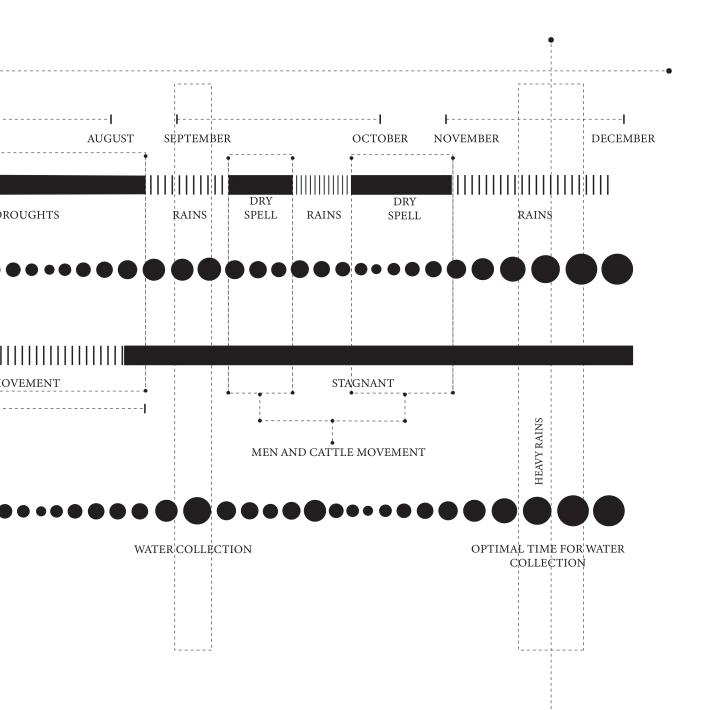
During the dry season, the Maasai move to areas where there is water and pasture for their livestock. This is typically in the lowlands and plains, where there is abundant grazing land. During the dry season, when water and grazing are scarce, the Maasai move their cattle to areas with more resources.

During the rainy season, they move to higher elevations, where there is more vegetation and cooler temperatures. This helps to ensure that their livestock have access to fresh pasture and water throughout the year. During this season, when water and grazing are more plentiful, the Maasai construct more permanent homes using more durable materials such as wood and mud. These homes are often larger and more spacious, with separate areas for sleeping and cooking. They are designed to provide more protection from the elements, as the rainy season can be harsh and unpredictable.

The Maasai's movement is often dictated by the need to find suitable grazing land for their livestock, which is their primary source of livelihood. They have a deep connection to their animals and rely on them for milk, meat, and blood. The Maasai's traditional way of life is centered around their livestock, and they have developed a keen understanding of the land and its resources.

In recent years, the Maasai's way of life has come under threat due to factors such as land development, climate change, and government policies. This has led to conflicts with neighboring tribes and governments, as well as issues wi their traditional way of life. Despite these challenges, the Maasai have continued to move with their livestock and adapt to changing circumstances in order to preserve their culture and traditions.



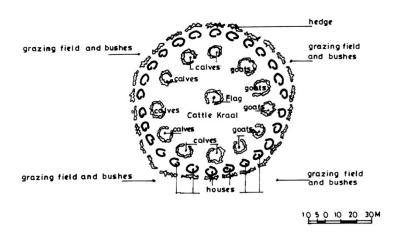


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MAASAI RITUALISTIC TENDENCIES IN RELATION TO HOMES

The design of the manyatta is also closely tied to Maasai rituals and customs. For example, the entrance to the manyatta faces east, towards the rising sun, which is considered a symbol of new beginnings and renewal. The manyatta is also divided into different sections based on gender and age, with separate areas for men, women, and children.



Additionally, the manyatta is often used as a gathering place for important ceremonies and rituals, such as weddings, coming of age ceremonies, and healing ceremonies. These events are an important part of Maasai culture and are seen as an opportunity to strengthen community bonds and connect with their spiritual beliefs. Overall, the Maasai's homes are not only functional structures, but also serve as important cultural and spiritual centers that are closely tied to their way of life and traditions.

Through time, it must be mentioned that the cultural variables of the Maasai have changed. They have acquired formal education, which has led to new occupations; they have adopted a new religion, which alternatively has led to new family types and a watering down of the role of traditional rituals in their lives. Ownership of land has changed from communal to individual, which has manifested settlement implications.

These variables have led to new cultural values such as independence of individuals and families, sedentary lifestyles, privacy, and social status. These values appear to have generated special design concepts such as nuclear family houses, permanence, and linearity (Rukwaro, 1997, p. 300).

This contrasts with the traditional cultural values, which were human functionality, kinship, mythology, and social ties, which were the generators of architectural concepts such as centrality, privacy, dualism, and communalism (Rukwaro, 1997, p. 150).

Modern design concepts generated many varied built forms regarding the independence of individuals. The new building plans are characterized by all family functions grouped together with rigid usage and specific functional spaces reflecting the modern nuclear families.

Technologically, modern ouses are using various new durable building materials, skills, and processes, which has alternatively led to the adoption of the linear form in contrast with the traditional curvilinear forms.

The varied house forms, in a way, reflect a struggle to "and an appropriate modern architecture that embodies their current values as opposed to traditional house forms with their very consistent architecture. The challenge now is to seek an architecture of transition that facilitates their entry into modernity while respecting their present culture at every stage.

CATTLE

In Maasai culture, cattle play a central role in their way of life and are considered a symbol of wealth. The Maasai rely on their cattle for milk, blood, and meat, and they also use them as a form of currency. The central location of the kraal expressed architecturally the importance both physical and symbolic of cattle in their life (Denyer, 1982, p. 106). Cattle were the quintessential expression of a man's wealth. This was the principal form of the homestead that structured the Maasai settlement.

The Maasai homesteads are circular enclosures surrounded by thorn bushes and are typically built by the men of the tribe. The Manyattas are designed to protect the cattle from predators and are divided into sections for calves, cows, and bulls. The Maasai people live in close proximity to their cattle and often share living spaces with them.

They believe that their cattle are a gift from God and that they have a responsibility to



care for them. The Maasai also use their cattle for ceremonies and rituals, such as weddings and funerals, and they place a high value on their traditional practices and beliefs surrounding cattle.

The Maasai's homes are not only functional structures, but also serve as important cultural and spiritual centers that are closely tied to their way of life and traditions.



HUMAN WILDLIFE CONFLICT

Due to the importance of the cattle in their lives, the Maasai move around to ensure new pastures for their cattle. This often results in them living near game reserves or national parks that create issues between the wildlife and the cattle.

Architecture can play a significant role in mitigating human-wildlife conflicts in Maasai communities. Building structures that are specifically designed to keep wildlife out of human settlements can significantly reduce the risk of confrontations.

These structures will include barriers such as fences, walls, and trenches and strategically placed buildings and pathways to avoid areas with high wildlife activity. In addition, incorporating traditional Maasai knowledge and practices into the design of these structures can help ensure that they are culturally appropriate and effective.

This project aims to find ways in which traditional Maasai bomas can be modified to include stronger walls and gates that would limit wild animals' ability to enter these living areas, preventing confrontations, protecting both the Maasai and the animals.

By using architecture to address human-wildlife conflicts in Maasai communities, we can help promote co-existence between humans and wildlife while also preserving important ecosystems and cultural traditions.

DEFORESTATION



As a semi-nomadic tribe, the Maasais rely heavily on the environment for their daily needs. However, their practices have caused environmental concerns, leading to deforestation and affecting the local ecosystem. The Maasai are aware of the impact their practices have on the environment and have taken steps to reduce their carbon footprint. They have started to utilize locally sourced and recycled materials in their architecture, which can have significant effects on

the environment. By reducing the need for new, unsustainable construction materials, we can help curb deforestation and habitat destruction.

There is a growing awareness of the importance of sustainable design, and it is becoming increasingly crucial to find ways to enable the reuse of materials in building structures that can be easily put up, taken down, and transported. This approach not only helps reduce waste but can also help to preserve the culture of the Maasai tribe and their traditional building methods. By incorporating these traditional methods into modern architecture, we can create sustainable structures that are both environmentally friendly and culturally significant.

GENDER INEQUALITY

While architecture alone may not be able to solve sexism in Maasai culture, it can play a role in promoting gender equity and challenging traditional gender roles.

In Maasai culture, it is common for men to have larger homesteads than women. This is often due to the traditional division of labor, where men are responsible for herding

livestock and protecting the community. At the same time, women are responsible for domestic tasks such as cooking and cleaning.

Gender inequality has been a persistent issue in Maasai culture, with cultural norms that tend to favor men. Women in Maasai communities have traditionally been assigned domestic roles, such as cooking and cleaning, while men have been responsible for herding livestock and protecting the community. This division of labor has led to a gender imbalance in terms of access to education, economic opportunities, and decision-making power.

As a result, Maasai women have faced significant challenges in terms of gender inequality and have been largely excluded from participating in community decision-making. This has limited their ability to voice their concerns and contribute to the development of their communities.

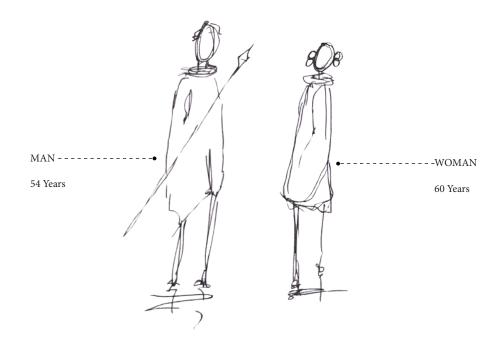
Through architecture, it is possible to challenge traditional gender roles and promote gender equity. By designing spaces that are inclusive and accessible to all members of the community, regardless of gender, we can help create a more equitable society. This may include creating spaces that are flexible and adaptable to the changing needs of the community, promoting gender equity in the allocation of resources and space, and involving women in the design and construction process.

By using architecture to address gender inequality in Maasai communities, there will be an attempt to help promote a more inclusive and equitable society, while also preserving important cultural traditions.

TYPICAL LIFESPANS

Studies indicate that the average lifespan of the Maasai tribe ranges from 55 to 60 years (Mwaniki et al., 2017). This relatively lower lifespan compared to other ethnic groups in the region can be attributed to various factors inherent to their lifestyle and environment.

One of the largest factors affecting the average lifespan of a Maasai is their settlements-which play a crucial role in determining their average lifespan. Traditional Maasai settlements, known as manyattas, are often constructed using natural materials such as mud, sticks, and cow dung. While these structures are well-suited to the Maasai's seminomadic lifestyle and provide protection from the elements, they can also lead to health problems.



There are several factors that can affect the average lifespan of a Maasai person, including:

- 1. Access to healthcare: Maasai people living in rural areas may not have access to modern healthcare facilities, which can make it difficult to diagnose and treat diseases. This can lead to a higher risk of mortality from preventable or treatable illnesses.
- 2. Nutrition: The traditional Maasai diet consists mainly of meat, milk, and blood from their livestock. While this diet is rich in protein, it may lack other essential nutrients that are needed for overall health and longevity.
- 3. Environmental factors: Maasai people are often exposed to harsh environmental conditions such as droughts, floods, and extreme temperatures. These conditions can lead to malnutrition, dehydration, and other health problems that can shorten lifespan.
- 4. Lifestyle factors: Maasai people are known for their active lifestyle and physical fitness, which can contribute to a longer lifespan. However, they may also engage in risky behaviors such as consuming alcohol or tobacco, which can have negative impacts on their health.
- 5. Infectious diseases: Maasai people living in close proximity to their livestock may be at higher risk of contracting infectious diseases such as tuberculosis, brucellosis, and Rift Valley fever. These diseases can have serious health consequences and may contribute to a shorter lifespan. Diseases such as Cholera and Typhoid.

Additionally, the lack of ventilation and inadequate sanitation facilities for water collection within their homesteads is one of the largest contrubting factors towards their lower life expectancy as they contribute to respiratory illnesses and other health issues.

The traditional housing of Maasai people can have both positive and negative effects on their lifespan. On the positive side, the traditional houses, known as Manyattas, are

typically made from natural materials such as sticks, mud, and cow dung. These materials provide excellent insulation, which can help to keep the interior of the house cool during hot weather and warm during cold weather. This can help to protect Maasai people from extreme temperatures and reduce the risk of heat stroke or hypothermia, which can be life-threatening.

However, due to their nomadic nature, their homesteads are not typically built to last very long and traditional Manyattas may not provide sufficient protection against extreme weather events, such as floods or storms, which can be life-threatening. There One significant problem that Maasais face is the spread of disease. The use of cow dung as a building material can create unsanitary living conditions and increase the risk of illness and disease- with no ventilation coming through the Manyattas.

The homes are typically small and have very few windows, which can make them feel cramped and stuffy, especially during the hot and humid months. Poor ventilation can also lead to health problems such as respiratory issues and the spread of diseases. The lack of fresh air and sunlight can create a breeding ground for bacteria and viruses, which can lead to infections and illness.

Another issue that stems from the lack of ventilation is the use of firewood and charcoal for cooking purposes, and this can lead to smoke in their homes.

Wihtout proper ventilation. The smoke causes respiratory problems and increase the risk of lung-related illnesses. While the use of smokeless stoves has been introduced to some Maasai communities, the cost and availability of such stoves can be a challenge. Additionally, the traditional Manyattas do not have chimneys, and the smoke can build up inside the house, making it difficult to breathe. This is a significant health risk for Maasai people, especially children and the elderly, who are more vulnerable to the negative effects of smoke inhalation.

One proposed solution to this issue is to raise the roofs of homes. By raising the roofs, the homes would still be protected from harsh weather conditions, but at the same time, it

would also create spaces for air to come into the homes and allow stale air to be released. This solution not only ensures the safety of the homes but also promotes better air quality and circulation within them.

The Maasai people often have to travel long distances to find water, especially during dry seasons when water sources become scarce. This can be a difficult and time-consuming task for them as it involves walking for miles with their cattle in search of water. Additionally, the water they do find may not always be safe for drinking or bathing, leading to health concerns. Which is one of the three largest factors affecting their health.

Waterborne diseases

Are a significant problem for the Massai people, as they often drink from contaminated sources. This can lead to illnesses such as cholera, typhoid, and dysentery, which can be life-threatening without proper medical treatment. The lack of access to clean water and sanitation facilities is a major concern and contributes to the high incidence of waterborne diseases in Massai communities.

Lung Health

Several of the elderly community members in NMC live in small traditional homes which can trap smoke from cooking fires (N. Reiyia, personal communication, August 2, 2021). This significantly increases the risk of both acute and chronic respiratory infections. Any respiratory issues that exist within the community will only get worse with continued exposure to heavy smoke in poorly ventilated housing. Many of these deaths are the direct result of indoor cooking and improper ventilation systems in a home's structure.

Eye Health

Another health issue affecting the elderly population in Narok County where majorit of the Maasai population live- is eye health, specifically cataracts and Trachoma (N. Reiyia, personal communication, August 2, 2021). Rather than a clinical understanding, studies have revealed that for the Maasai trachoma and is attributed to either environmental conditions Cataracts are an eye condition that affects the lens of the eye. Cataracts cause clouding of the lens which gradually gets worse.

Cancer

Accounting for about 10% of the deaths in Narok County in 2019, cancer represents a third significant health concern for the people of NMC (IHME, 2021). Cancer treatments are costly and are not always feasible, especially in lower-middle income countries like Kenya. For the Maasais who spend alot of time in the presence of smoke and toxic wall materials they are exposed to a higher risk of contracting cancer

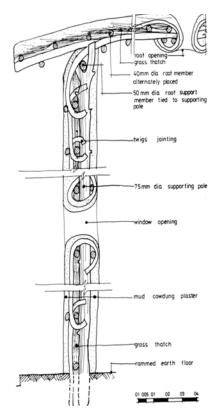
The Maasai people have a deep understanding of their environment, and they have been able to adapt to changing conditions over the years. However, with the increasing effects of climate change and environmental degradation, the challenges they face have become more pronounced. By simply tweaking their traditional architecture, it creates possibilities to create a safer future for the Maasai. For instance, designing buildings that collect and store rainwater could help in providing a reliable source of water for the community. This could reduce the time and effort required to fetch water, and also help in mitigating health concerns associated with unsafe water. With such interventions, the Maasai people would be able to focus on other aspects of their livelihoods, such as cattle rearing and other economic activities, leading to an overall improvement in their quality of life.

MAASAI DIETS

The Maasai people are a pastoralist community and rely on their livestock for food and other resources. They are skilled herders who move their cattle to different grazing areas depending on the season and availability of resources, for both their cattle as well as their community.

This diet mainly consists of milk, meat, and blood from their cattle, which they obtain through careful management and husbandry of their livestock. They also hunt wild animals and gather wild fruits and vegetables when available. Since, the Maasai people have a deep understanding of the natural environment they have mastered techniques on how to sustainably utilize its resources for their survival.

EXISTING MAASAI ARCHITECTURE



The traditional Maasai architecture is known for its functional and cultural significance. The Maasai people have long relied on their architecture to provide shelter, protect them from the elements, and reflect their cultural values. Their homes, are made using locally available materials such as wood, mud, cow dung, and grass.

These materials are carefully selected and arranged to provide a sturdy and functional structure, which can withstand harsh weather conditions. The manyatta is designed to be both functional and symbolic, reflecting the Massai's cultural beliefs and traditions. For instance, the entrance to the manyatta faces east, towards the rising sun, which symbolizes new beginnings and renewal.

The manyatta is also divided into sections based on gender and age, with separate areas for men, women, and children. The traditional manyatta is a circular structure with a domed roof. The walls are made of branches and twigs that are woven together and then

covered with mud and cow dung.

The roof is thatched with grass, which provides insulation against the heat and cold. The traditional Maasai architecture is a testament to the ingenuity and resourcefulness of the Maasai people. It reflects their deep connection to the land, their respect for nature, and their rich cultural heritage.



STAGE 4 placing intill branches and thatch



STAGE 3 constructing roof structure by criss crossing and fastening members



STAGE 2 fastening horizontal members to create structural form



STAGE 1 pole embedded into earth

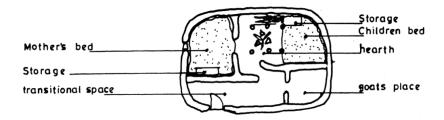
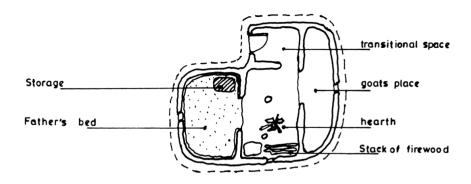


Fig. 9. Wife's house. Source: Rukwaro (1997, p. 99).



THE FINAL PROJECT

IYIOLO AKE ENINGUA KAKE IMIYIOLO ENILOITO
YOU KNOW WHERE YOU COME FROM BUT YOU DON'T KNOW WHERE YOU ARE ENDING TO.

Growing up in Kenya, I was introduced to a myriad of cultures and traditions, as well as both people and places I was fortunate enough to be able to live the life I do there- but it definitely opened my eyes to a lot of communities that were living simply to survive- and I wanted to use my knowledge of those communities as well as my foundation in architecture to find ways to make life easier.

The Maasai tribe is one of those tribes that I have been lucky enough to learn about- and spend time with. They are a tribe extremely rich in culture, but due to their nomadic tendencies, they tend to create a shelter simply to take it down, and that's all they have known. For centuries, the nomadic people of the Maasai tribe have journeyed to find better pastures so that their communities may thrive. They have perfected building methods to create temporary shelters. However, the main focus has always been on simply having a shelter, but not much thought goes into making a structure that not only acts as a shelter but also functions to provide a safe haven from strong winds, rains, extreme heat, and flooding. Due to unforeseen weather catastrophes, villages are washed away, burnt down to ashes, or blown away every year.

This project aims to offer new possibilities for nomadic architecture by exploring approaches to kit-of-part assembly systems integrated with local traditions in building and craft to improve the quality and performance of buildings in communities such as the Rendille tribe. By integrating ideas from both practices, this project hopes to create a new form of architecture that is not only sustainable and functional but also culturally relevant and meaningful.

This project is not about replacing traditional architecture or imposing Western standards on traditional societies. Rather, it is about finding a way to bridge the gap between tradition and advanced technology to create a new form of architecture that can help nomadic communities thrive in the 21st century without losing their identity. In order to use architecture as a tool for social and cultural transformation- this project aims to represent a paradigm shift in the way we think about architecture and its role in shaping society, embracing cultural and traditional forms and improving livelihoods.

WHAT PROJECT HOPES TO IMPROVE/INTEGRATE-

Taller structures-

Reduced the number of household accidents due to improved lighting from having larger windows and a higher roof.

• Pit Latrines-

Reduction in communicable diseases due to the introduction of sanitation.

Redesigned wall arrangement-

Reduced incidence of eye cataracts and lung disease due to improved ventilation.

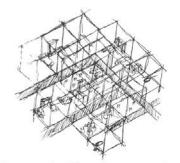
· Slanted roofs for water collection-

Safe water is now available from the roof catchments.

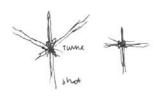
• New methods integrated-

More skills for generations to pass down- as well as more ways to make incomes.

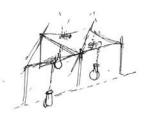
REQUIREMENTS



Separate dwellings for men and women



Materials



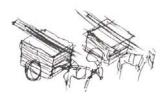
Rainwater Collection





Perimeter Protection





Transportable

FERNANDES 49 THE FINAL PROJECT

VARIABLES

Variables (What will change every move)

- Height
- Arrangement
- Area Per Unit
- Activities
- Types Of Units
- Proximity To Water
- Adaptability
- Shading
- Solar orientation

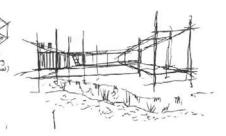












KEEPING AND REMOVING FROM TRADITIONAL PRACTICES

Keeping-

- Materials
- Methods of joinery.
- Building process.
- Impermanence



Removing-

- Cooking and sleeping in the same enclosed space.
- Spaced out bomas.
- -Secondary wall to protect people/cattle from wild animals.
- -Waste of materials between moves.

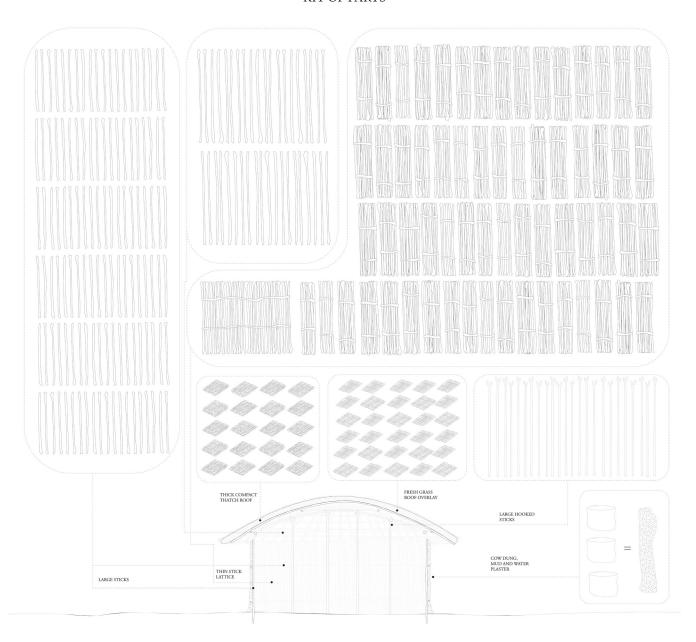




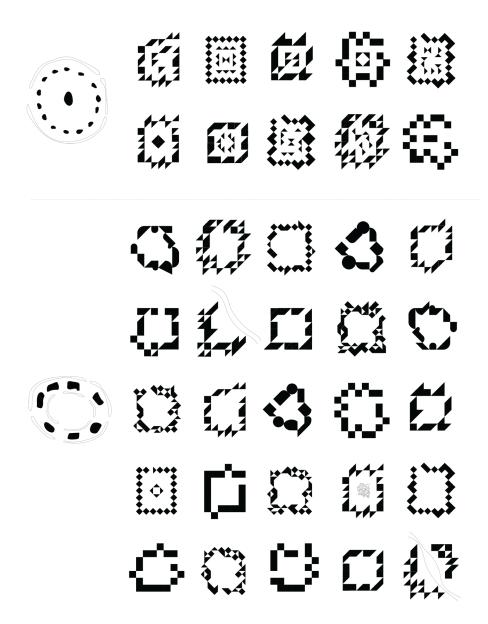
ASPECTS TO BE IMPROVED-

- Use durable materials such as thatch and natural timber for roofing and walls.
- Materials used for construction include locally available stone and sand, that are locally available and are unlikely to be depleted. Instead of depleting other materials.
- Provision of ventilation facilities smoke extraction chimneys, and windows that bring in light and fresh air.
- Water collection using gutters and large storage jars (Kalabash) enables water to be collected and used.

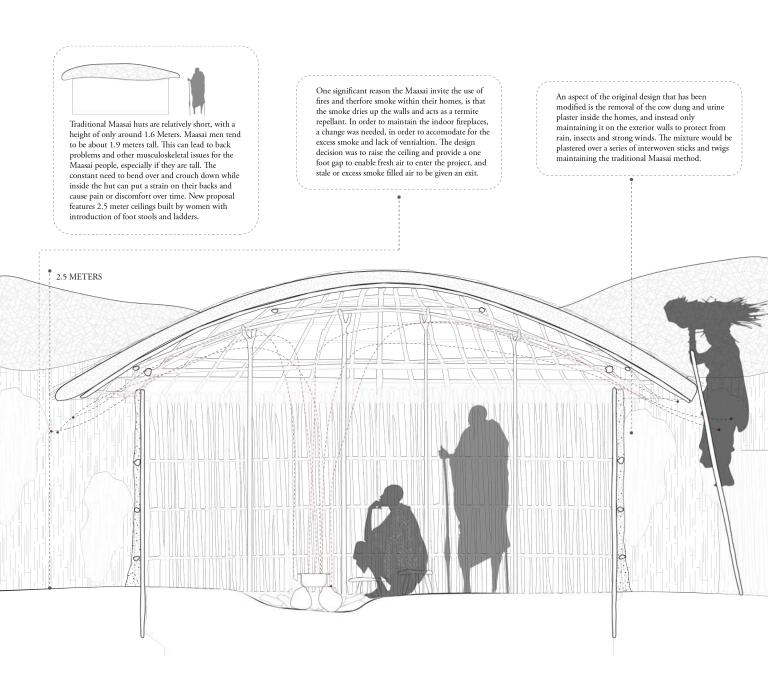
PROPOSED/ MAINTAINED KIT OF PARTS

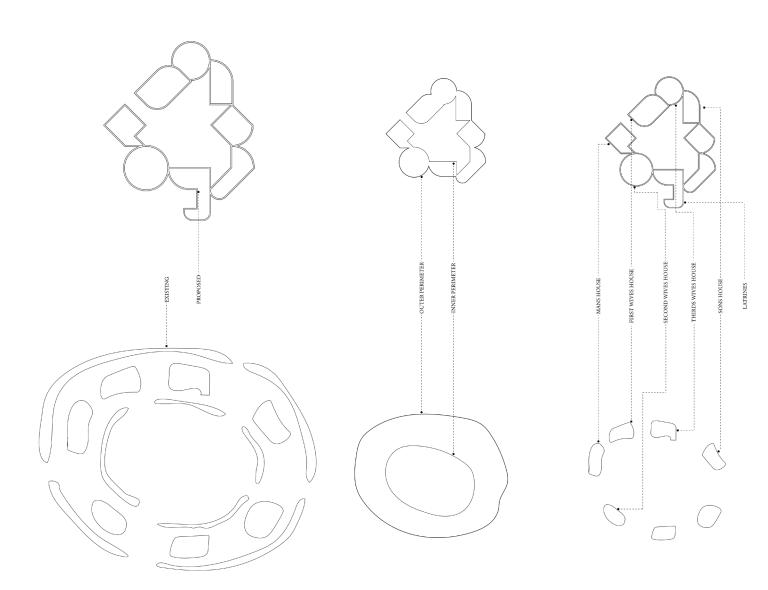


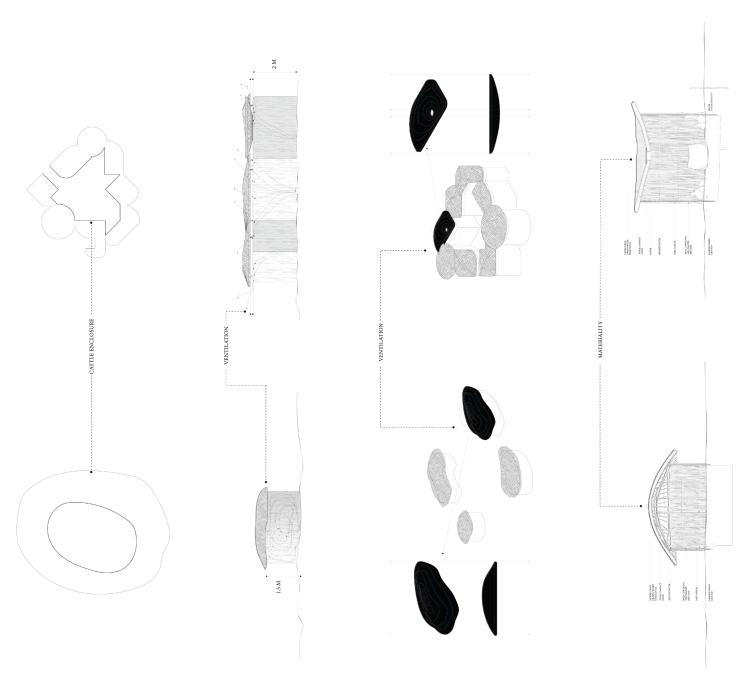
ARRANGEMENT



THE FINAL PROJECT







INNER/ OUTER PERIMETER

In order for a project like this to succeed, the focus was to maintain as much of their existing 'architecture' design styles as possible, which would respect their values and function properly. The first being the outer and inner perimeters, which function to keep the community as well as the livestock safe both during the day and night.

WILDLIFE BARRIERS

Going back to the kraal and cattle being a central part of their culture, one of the main causes of human-wildlife conflicts is wild animals eating cattle, which results in the Maasai killing them. The outer perimeter functions as a larger barrier that blocks out the animals

KRAAL

The kraal is the very center of the identity of a naasai and represents their wealth. This idea was maintained throughout the design process.

SEPARATION OF HOUSES

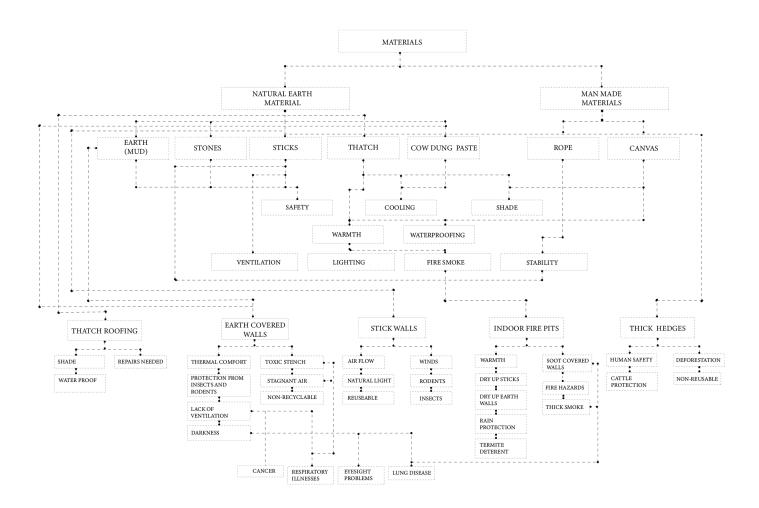
Maasai homesteads tend to have separate homes for separate families, which is another thing this project aims to maintain. The only new difference would be the proximity of these houses.

VOIDS

Within homes, voids, and solids are maintained. With one central roof for each individual home, it allows for less sticks to be used, but a clear division of spaces.

MATERIALITY

One of the challenges with this project was limitations in terms of materials, in ways that don't provide new materials that require a new type of upkeep/replacement. Yet still maintained their materials, with a few tweaks to their placement.



FOUNDATIONS

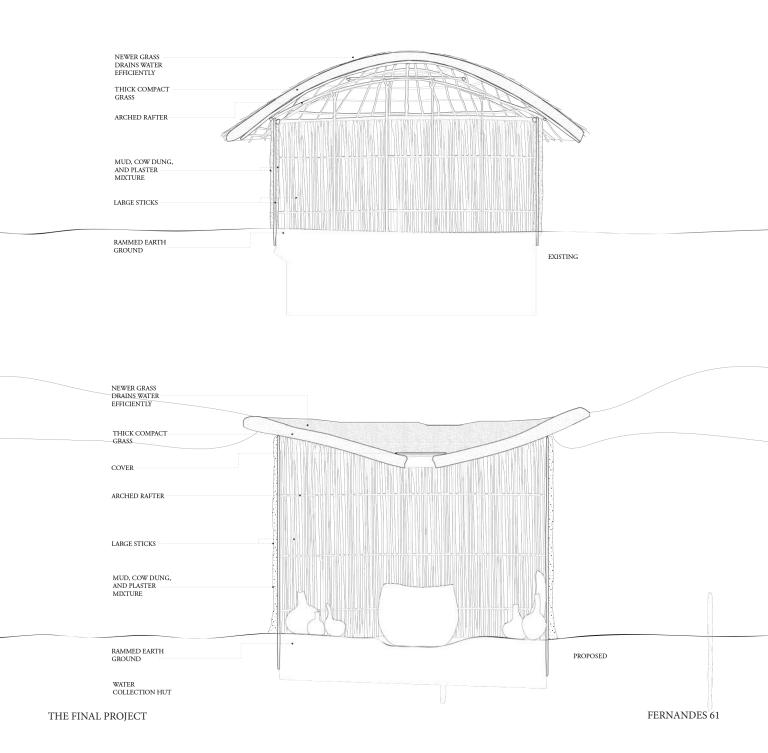
In terms of the larger logs as supports and taking from their styles of using deep holes in the ground to act as foundations, with methods of joinery of twine and sticks. One of the main focuses with this was to create a structure that could withstand floods that come with rare bouts of rain, as well as strong winds.

WALLS

Another significant aspect of the original Maasai design that has been modified is the use of cow dung and urine plaster inside the homes. While this practice has been a traditional part of their architecture, it was found to be unhygienic and unsafe for the inhabitants. Instead, the design proposal aims to only maintain the cow dung and urine plaster on the exterior walls to protect from rain, insects, and strong winds. This mixture would be plastered over a series of interwoven sticks and twigs, maintaining the traditional Maasai method. This modification would not only ensure the safety and hygiene of the inhabitants but also maintain the authenticity of the Maasai architecture.

DOME ROOF

The roof is then constructed using wooden poles and thatching materials, such as grass or straw. Supported by a series if interwoven arched rafters and large sticks. The distinctive dome shape of the Maasai homes is designed to help protect the interior from heavy rains and strong winds. The shape also helps to regulate the temperature inside the home, keeping it cool during the day and warm at night. Additionally, the new inverted dome shape of the roof allows the Maasai to collect rainwater, which is stored in large containers for use during the dry season.



WATER COLLECTION

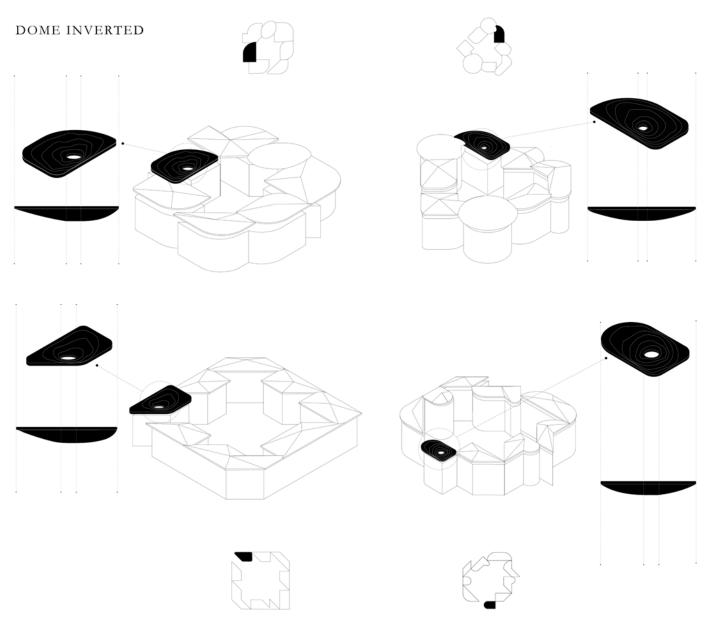
The Maasai people have traditionally lived in arid and semi-arid parts of the country, where water scarcity is a common problem. One of the main challenges they face is the lack of access to clean and safe water sources, which can cause health problems and limit their ability to sustain their livestock and crops.

To address this issue, a project was initiated to help the Maasai people collect and store rainwater using traditional roof structures. The project aimed to maintain the traditional roof structures, which act as protection from the rains and winds, while only intervening by flipping over one domed roof to act as a bucket. The small void used to direct rainwater into large Kalabashes for storage to be used for cooking, drinking, washing or bathing.

This proposal would enable the Maasai people to collect and store water during the rainy season, which they could then use throughout the year. The Kalabashes made from the dried fruits of the Calabash tree also function to keep the water cool, which helped to prevent contamination and preserve the water quality.

Overall, this project demonstrated how simple and effective interventions can make a significant difference in the lives of people living in arid regions. By using traditional knowledge and practices, it is possible to address the challenges of water scarcity and promote sustainable living practices.

WATER COLLECTION



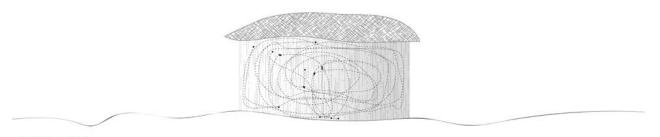
VENTILATION

Lung disease is one of the leading causes of illness or death within the Maasai cultures. This is primarily due to the lack of ventilation within their homesteads. The Maasai people rely on cooking fires to prepare their meals, and the soot from these fires often cakes the walls, leading to poor air quality in their homes. Additionally, due to the lack of windows, there is no fresh air entering the homes, which can exacerbate the problem.

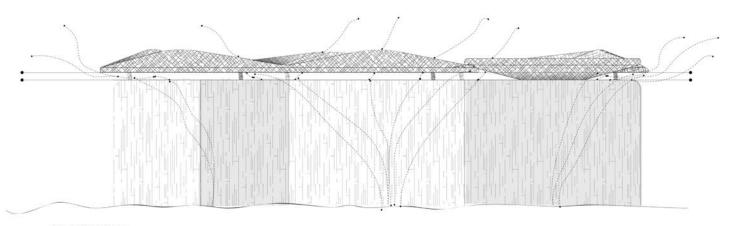
To address this issue, this design stategy was initiated to improve the ventilation within Maasai homes. The project aimed to separate cooking spaces from living areas and move the thatch roofone foot from the main structure. This design allows for light to enter the home as well as an exchange of fresh and stale air.

The life roof structure consists of a thatched roof that is separated from the main structure by a one-foot gap. This gap allows for air to circulate between the roof and the main structure, which helps to keep the house cool and ventilated. Even with the cooking area within the house, the smoke is now given a way to escape from the interior living spaces and let cooler air in. Additionally, the project introduced windows in the living areas to allow fresh air to enter the house. The new design would allow for better air circulation, which would help to reduce the buildup of soot and smoke in the homes.

VENTILATION



EXISTING



PROPOSED

FINAL THOUGHTS

For centuries, The Maasai have journeyed across the country, cementing themselves as a powerhouse of the Kenyan culture and identity. They have been able to work in unison with nature in attempts to co-exist with both environment and wildlife. Some of their practices have been perfected over generations; however, due to climate changes and political and social aspects, their communities are slowly disappearing. Communities like these, rich in culture, need to be protected and supported to be able to maintain their identity for generations to come.

The Maasai Tribe is just one of many vanishing tribes in East Africa. These tribes are facing an existential threat due to the impact of climate change on their traditional way of life. For the Maasai Tribe, this means the loss of their nomadic lifestyle, which is central to their culture and identity.

As their grazing lands become more arid and water sources dry up, the Maasai people are forced to abandon their ancestral lands and move to urban areas in search of work and sustenance. This has led to a loss of their cultural heritage and traditions, as well as their language and storytelling. It is essential that these tribes are supported in their efforts to preserve their cultures and narratives so that they can pass them down to future generations and ensure that their unique identities are not lost forever.

Tribes like these are just a few of those that have perfected their skills and embraced their culture for years. This intervention would be to create modifications that would provide solutions to some of the threats these cultures face, such as health issues, human-wildlife conflicts, and water collection while maintaining aspects of their culture.

Similarly, solutions such as water harvesting systems could be incorporated into traditional designs to collect and store rainwater for use during dry spells, as well as ventilation systems that would enable fresh air to enter the homes. They also use cow dung and urine plaster outside the homes and not on the inside in an attempt to prevent the smells within the home.

FINAL THOUGHTS FERNANDES 67

For generations, this architecture has survived through deserts, forests, and savannahs, has overcome floods, landslides, and droughts, and has changed to endure changing climates, but because their stories are untold, their legacies are disappearing and their architecture, vanishing.

This project aims to d more than just find ways to supplement the traditional Maasai way of life, this project aims to research the Maasai culture and take forward their own design strategies supplemented by global and local influences to enable a healthier, more sustainable future for the Maasai.

This project aims to shed light on not only this nomadic style of architecture but also on the stories of the Maasai, their ideas, beliefs, styles, and identities. The essence that makes this tribe so influential across the African Continent.

Scattered throughout this book are age-old innovations that intertwine themselves with simple phrases to cement storytelling as a central part of their design process, which has impacted how the Maasai have existed and continue to exist. Proverbs that have shaped their individuality and essence, that have influenced their ways of life, and rituals that have instructed their design processes and methods.

Embedded within every inch and aspect that informed this design proposal are stories of culture, stories of a community, and stories of age-old legends that, till today, stand at the heart and soul of the Maasai.

FINAL THOUGHTS FERNANDES 68

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THE GREAT MIGRATION OF THE MAASAI

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