

# TRADITIONAL LESOTHO HOUSE REINVENTED

For a culture with a better future





# LESOTHO AFFORDABLE URBAN HOUSING DESIGN

## "TRADITIONAL HOUSE REINVENTED"

### GEOGRAPHY | HISTORY | CLIMATE



Maseru is a district of Lesotho. Maseru is also the name of the district's capital, and is the only city in the district and also the capital of the country. It is the largest urban area in the country, and therefore the only city. The city of Maseru is located on Lesotho's western border with the Free State Province of South Africa, the frontier being the Caledon River. Maseru borders on Berea District in north, Thaba-Tseka District in the east, Mphahlele District in south, and Mafeteng District in southwest.



Lesotho has predominantly low land zone with an elevation of 1,500 m (4,900 ft) 1,800 m (5,900 ft) above the sea level. These lands are the major agricultural zones in the country.



The average annual rainfall in the country is 100 cm (39 in), most of which is received during the rainy season of October to April. Though it rains during all the months of the year, groundwater is limited on account of run-offs.



The region has a temperate climate on account of the elevation and is humid during most parts of the year. The temperature in low lands vary from 32 °C (90 °F) to -7 °C (19 °F) in the winter.



Though culturally conservative in the main, the people of the country welcomed the modernization programs begun in the 1990s, which have brought new wealth to the country but at the cost of much environmental damage. Tourism and revenues from the country's diamond industry have also helped to improve material conditions, and the capital, Maseru, has grown to become one of Southern Africa's most attractive cities. Of these changes, Sotho writer Mpho 'M'Atsepo Nthunya remarks,

"Maybe if there is one day enough for the hunger to stop, we can stop being so jealous of one another. If the jealousy is no more, we can begin to have dreams for each other."



### Housing

The capital, Maseru, consists of a modern city centre surrounded by suburbs for the large bureaucracy and for foreign aid and development personnel; shacks and informal settlements dot the perimeter. In the rural villages the walls and doors of many houses are covered with colourful painted designs. The villages themselves consist of clusters of circular or rectangular one-room houses solidly built of turf, Kimberley brick (unburned clay), or dressed stone. Traditionally, the roofs were thatched, but more-modern roofs are made of corrugated iron, as they are in many other parts of sub-Saharan Africa.

The average household usually has two or three one-room houses, the largest one serving as a living and dining area and as the parents' bedroom; the smaller ones are used for kitchen and storage purposes and as sleeping quarters for the children. The house of the chief, or headman, is usually in the centre of the village, protected by that of his principal wife and surrounded by those of his other wives. The lekhotla (open court) is in front of the chief's house; beside it are the kraals (enclosures) for the cattle and stables for horses.

### Basotho Blankets

The origin of the Basotho blanket goes back over a century. In 1860, King Moshoeshoe I, the founder of Lesotho, was given a wool blanket as a gift. The King loved the blanket so much, he abandoned his traditional leopard-skin kaross in favour of the blanket.





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## MATERIALS | REFERENCES | SPACIAL ARRANGEMENT

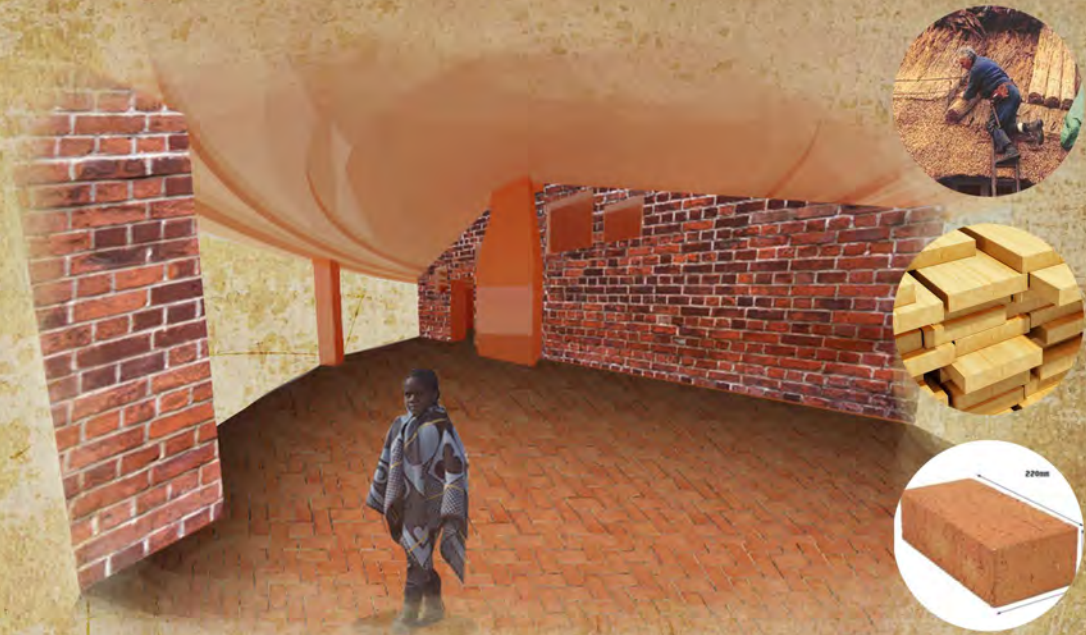
Most people in the towns live in one or two room houses made of concrete blocks with tin roofs and stones on the roof to hold down the tin. In the rural and mountain areas people live in huts called rondavels. Most are made of stone and mud with thatch (grass) roofs.

The huts are round and many have a shelf around the inside edge for pots and dishes. For those who have them, sleeping mats are laid out during the night and are rolled up during the day. There is often a small fire for cooking in the middle of the hut.

Some people have beds. Entire families live in these one-room rondavels so every inch of space has a purpose.

There are also rectangular concrete homes that some families can afford. A curtain divides the house in two. One side is a bedroom; the other side is the kitchen. Most people in the countryside do not have electricity.

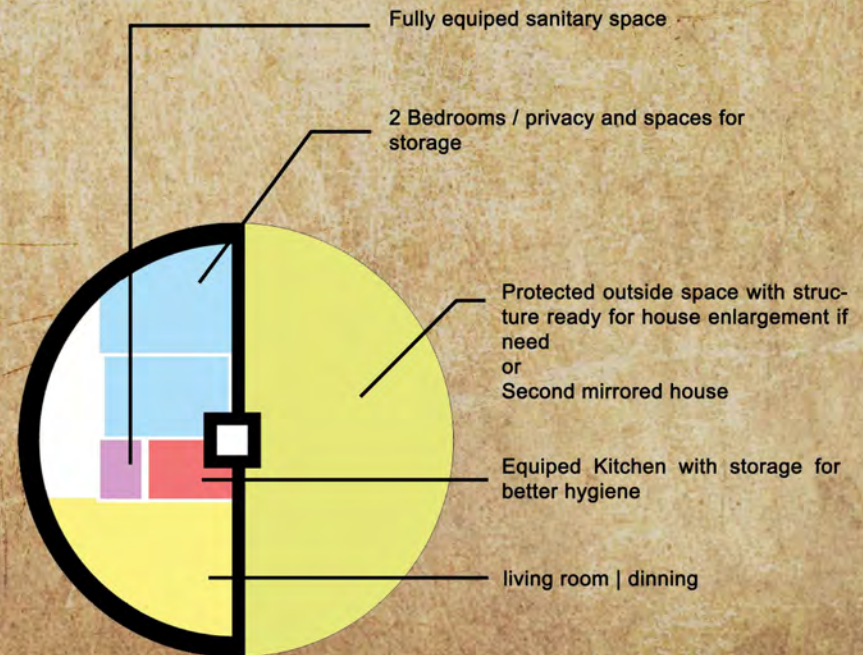
People who have more money live in bigger homes with many rooms, but even these homes rarely have heat or insulation.



*"What we said was, what if, instead of thinking of 40 square meters as a small house, why don't we consider it half of a good one?" - Alejandro Aravena*



I choose as reference for my project the traditional Rondavel house as its offers much more than a stone beatifull stone house , it can be a kickstarter for a new more inclusive urbanism as the close houses give a sense of inclusion and unity. Most social gatterings are made in front of these houses and so i want to keep this ways alive in a modern city. This sence of human scale is very important.

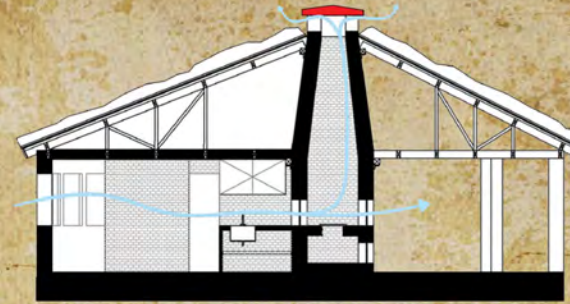




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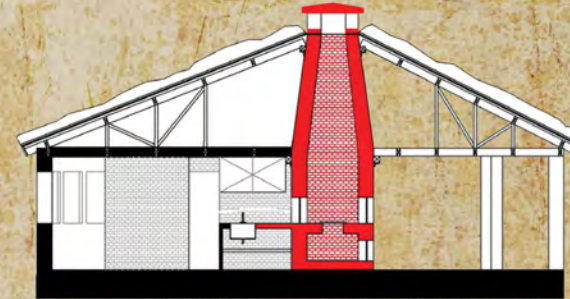
## STRUCTURE | ENVIRONMENTAL BEHAVIOUR | AGGREGATION

The central Chimney of this modern rondavel is the heart of the house. A multi-functional device that can be used for cooking in a self sufficient way , warm up the hut in the winter or cool down in the heat season. Its structure consists of a central peice , the chimney, and a series of 8 reinforced brick pillars that ara held together buy a wood structurure. All that settles on a concrete slab.



SUMMER

The chimney acts as natural ventilation device , where the cap is solid rock , using it's inertia to suck the heat flow outside and therefore cooling and cross-ventilating the house.



WINTER

The chimney is in constant use and therefore the thick walls will keep the heat and disipate it during the cold nights keeping the house at a stable and comfortable temperature.

## AGGREGATION

The agregation is meant to recreate a sence of high-density village , where some of these huts can be more than housing , they can be schools, shops, spaces for cattle , greenhouses , comunal spaces, storage. As the structure is modular its very multifunctional. The public space that conects all the rondavels is packet with a playfull instalation of solar panels that wil serve the huts and become shadow spots on the walkway.





## BLOCK 78

### Lesotho House Reinvented

To design an affordable housing prototype?

What does it really mean? What do the Lesotho people really need?

Those were some of the main questions I asked myself when I came across this project, solving them with an ethical and social special care in mind was something I had in mind since the first time I came across this project proposal.

Scrolling through the information about Lesotho and focusing on Maseru I noticed a great contrast, often found in countries coming up with new economies.

To curb Lesotho's housing problem in an environment challenged by: increased urban migration, climate change and scarcity of resources, limited accessible land due to its topography, I knew I had to find a way to give the basic modern housing functions but also space to grow, for a family / group of people living together. All that having in mind costs and post-construction use and durability.

Reinventing the traditional "hut" was an instant idea, as I found these small rounded houses so interesting and representative of the culture.

I did introduce some very basic thermodynamic devices such as a fire-place in the centre of the house so that in winter I would warm up and in summer work as solar chimney, cooling down the house.

Introducing an "all-brick" concept was also a challenge I proposed to myself, to have a simple building material and cheap, giving me also that extra thermal density, that improves the overall housing comfort. Going up to the roofing system I choose a mix between a light durable wood structure covered with insulation, impermeable sandwich sheet and a traditional finish using a thatched roof, that will both give protection from the elements and a traditional look.

Taking the initiative of reusables and ecological insulation I choose to use a locally made "Warmcel" insulation, that consist of recycled newspaper ( U.Value = 0.19w/mk – at 200mm | thermal cond. = 0.036 w/mk)

This traditional looking project offers the possibility of having a "small type village aggregation" where this structure can be more than just housing, it can be a school, nursery, office shop. And create this sense of small community inside this growing city.

The side patio can turn into a mirror of the house and for the space of one you can have two houses, doubling the occupation rate.

I hoped with this project more than just to give just the basic functions and housing to the people of Lesotho but to offer a sense of identity and to flourish the beauty of a small country in a big city that can be passed on and lived by new comers.

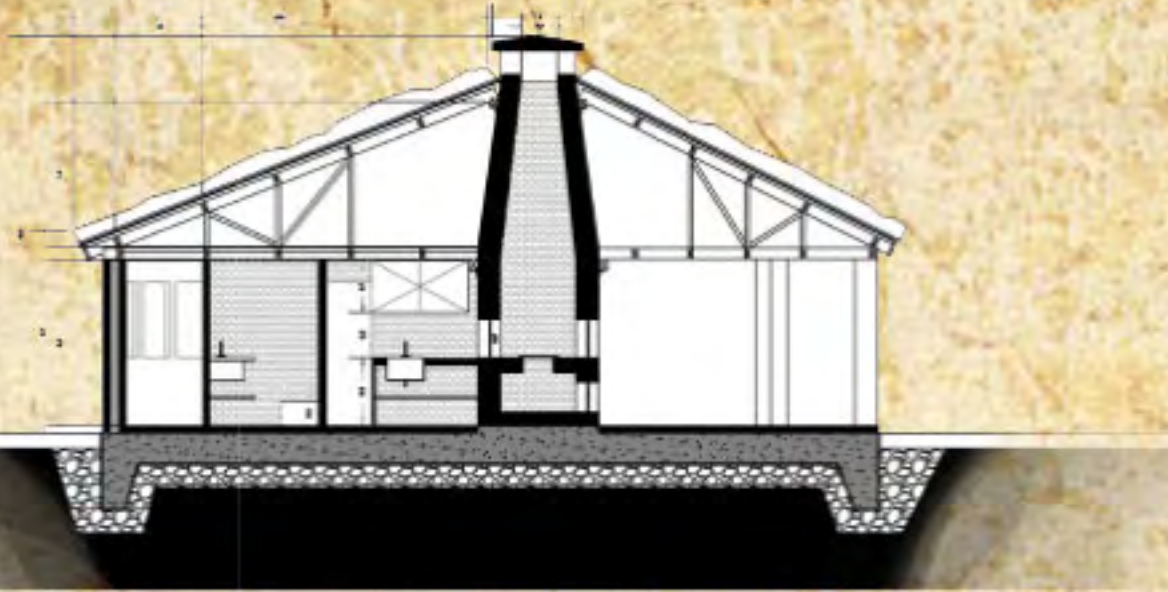


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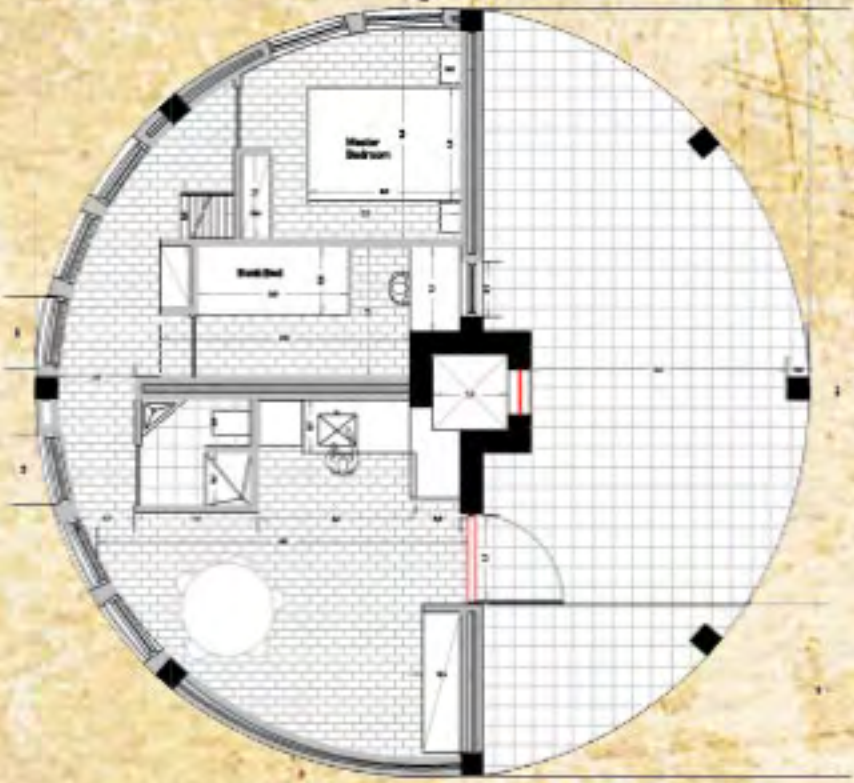
Project Rise in the City  
Lesotho - Maseru

This project focuses on taking taking tadition and fitting it in the modern ways and developing city without losing the escense and memory of a great culture , that is the people of Lesotho.  
Making this houses confortable , accecible and autonomous was imperative , in order to give the oportunity for small families to become more independent thus creating a sense of community inside this small modern villages.  
Here I present a solution that will fufill both cultural and modern problems of overpopulation and loss of identity of space. A modular and upgradable home that has space to transcend itself and become a great place to grow.

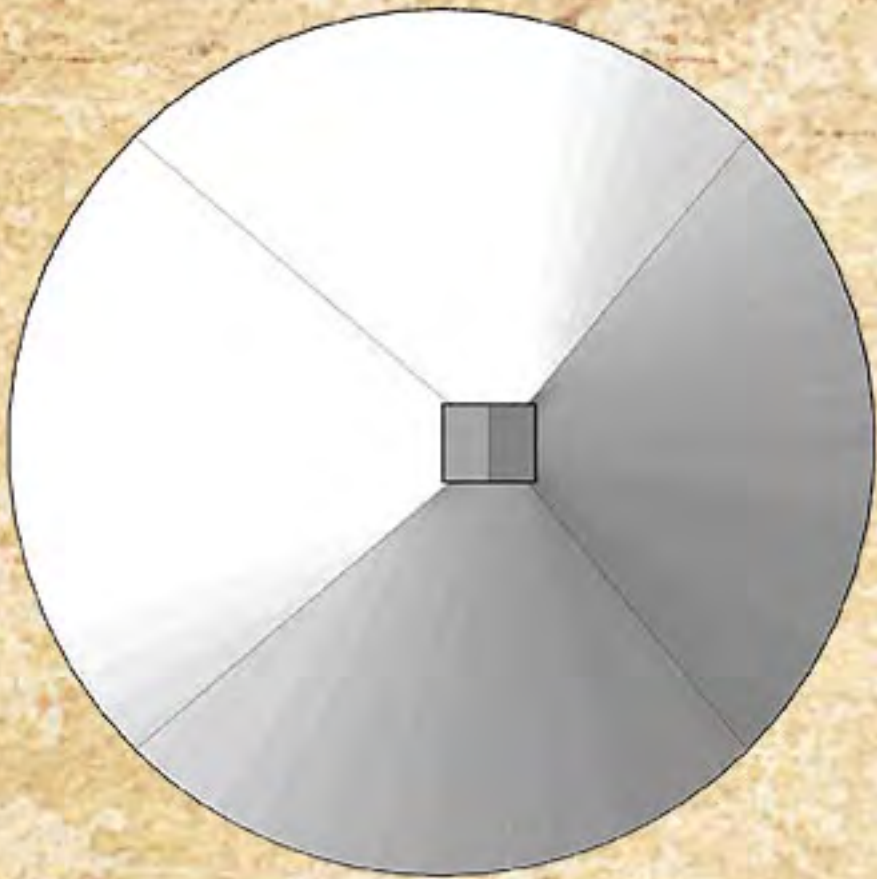
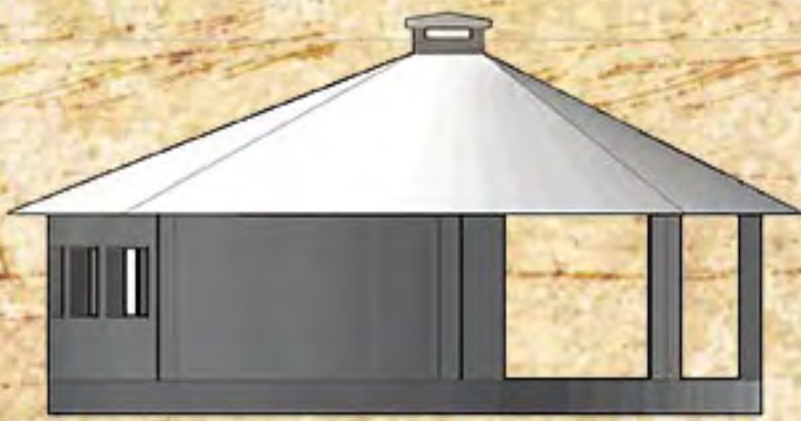
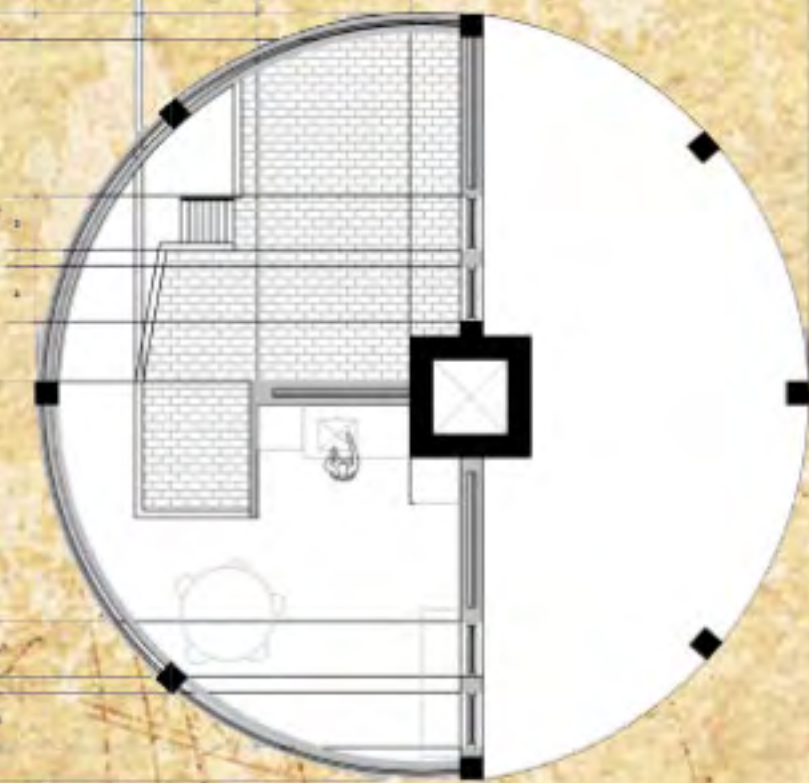
section 1  
scale 1/200



ground floor  
scale 1/200



1st floor  
scale 1/200



Elevations  
Roof plan  
scale 1/200

