

# ROHO HOUSING





## TARGET RESULT



community



environmentally friendly



sustainable



cozy



energy efficient



low cost



preservation of cultural identity

## WHAT

**ROHO** = spirit (swahili)

**Rondavel house** + **Home** typical house in the region of South Africa, which embodies the history of local culture

## WHY

Because every family deserves to have a home where they can eat, sleep, refresh and raise their children, a place to feel comfortable. One that you can build at a low cost with a high value.

## WHERE

The idea is to create a home that works well on its own, but to work perfectly in a neighborhood, area, city. Module unit can be used in different places, both alone and in combination with other modules, forming a neighborhood

## HOW

ROHO offers an easy-to-build structure at an affordable price using local materials. Each ROHO structure will bring the spirit of the inhabitants through the interior paintings. The facades, for their part, are the unifying thing. They are made of visible bricks, which are arranged in different shapes on each home. The dwelling is made up of 3 basic modules that could be recombined.

## LOCAL MATERIALS

### Sandstone

The traditional dwelling in Lesotho is the stonebuilt rondavel with a thatched roof. This is locally available and won both by medium-sized and largescale concerns. There are enough sandstone deposits to quarry for building stone to make it a common material.



### Burnt bricks

These are locally manufactured in Maseru at Loti Brickworks, Majara Bricks, and Lesotho Brick and Paving using local claydeposits.



### Cement

Cement is imported in bulk from PPC in South Africa and bagged in Maseru



### Roofing sheets - imported

CI roofing sheets are readily available but almost all imported from South Africa.



### Gypsum

Gypsum is a soft sulphate mineral used as a main constituent in many forms of plaster.



### Sand

Sand is produced in Lesotho for domestic consumption. It is locally sourced from river banks by local suppliers and individuals.



### Timber - imported

There is virtually no commercial timber in Lesotho. Sawn timber and poles are imported from South Africa. Timber is used in roofing, doors, windows and finishes in up-market housing.



### Fitments and fittings

Most of these are imported from South Africa and, more recently, China.





## SHAPE FORMING

Squares are also seen as particularly stable and orderly, standing for firm foundations, both literally and metaphorically. There are basic reasons why most building footprints are squares or rectangles: they are stable and encourage permanent structures. The shape is implemented in the shape of the houses.

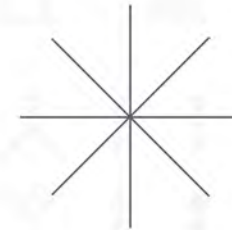


The circle is one of the four geometric symbols (circle, center, cross, and square), the embodiment of the Earth and the Sun, the vital force of fertility. Since time immemorial it has served as a sign of integrity and completeness and a sign of perfection. He expresses the ideas of unity, infinity and the culture-absorbed space of nature and chaos. Circle shape is implemented in the shape of neighborhoods.

mirror symmetry



central symmetry



## MODULES FOR ONE UNIT



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ENTRY

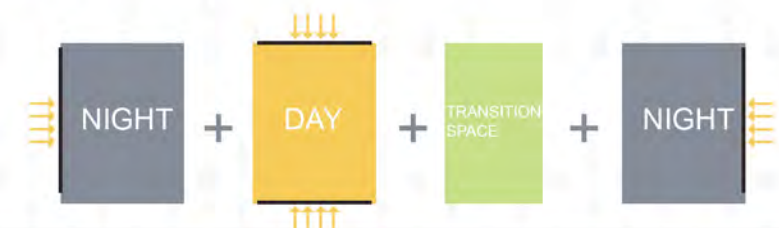
## COMBINATIONS & EXTENSIONS

### BASIC

The dwelling is made up of 3 basic modules that could be recombined.



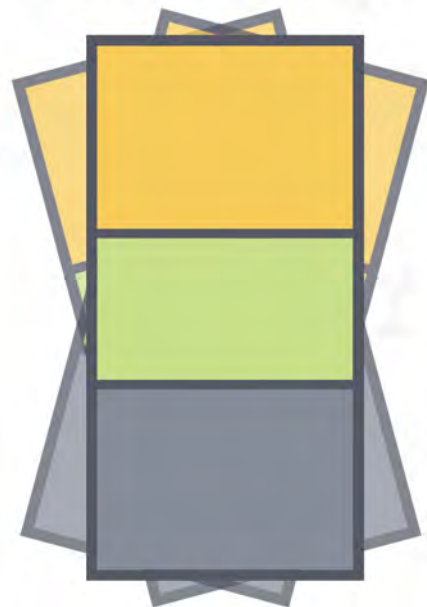
### EXTENDED



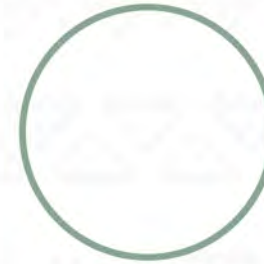


# URBAN PLANNING

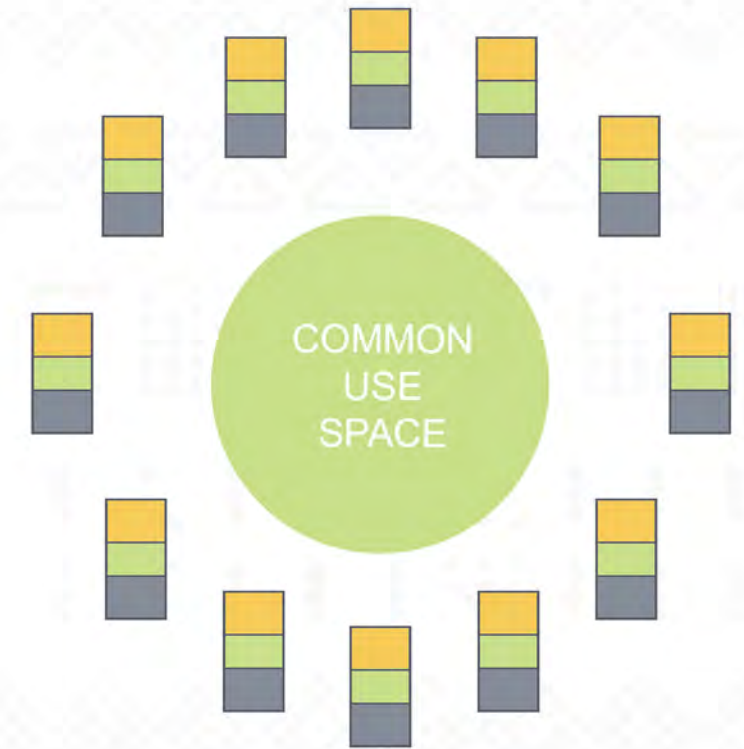
NORTH



+



=



## NEIGHBORHOOD

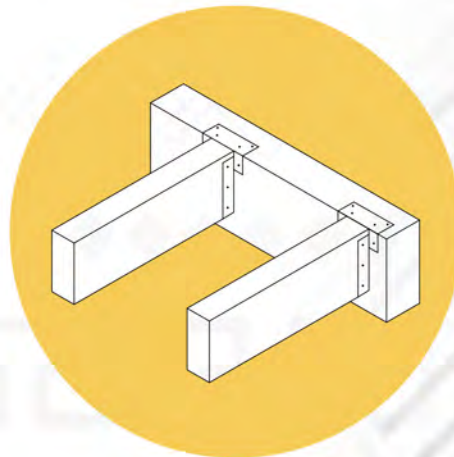
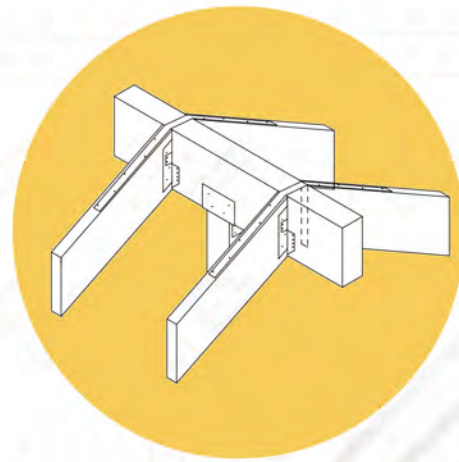
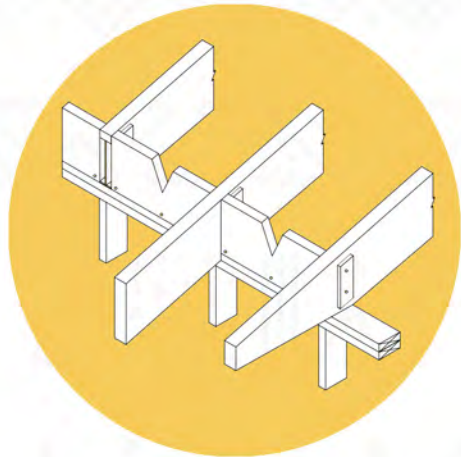
The shape and size of the common-use space depends on number of houses in the neighborhood. People can use this area for play area, laundry, work, grow food, maintain animals, etc.

## COMBINATIONS





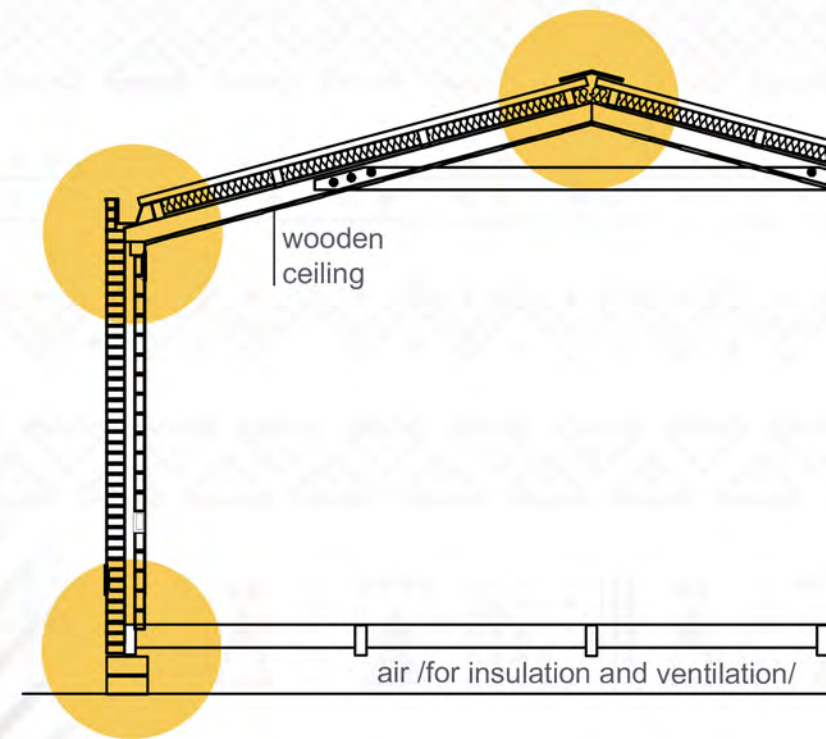
# EXTERIOR



TIMBER  
STRUCTURE

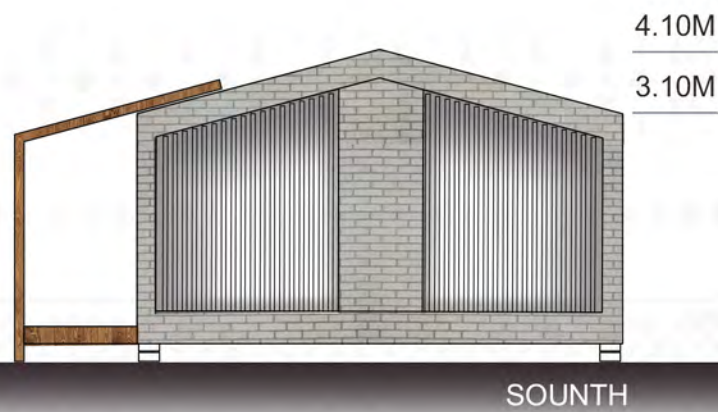
ROOF  
PANELS

SUN - PROTECTORS  
HORIZONTAL - NORTH



MASONRY  
CAVITY  
WALL

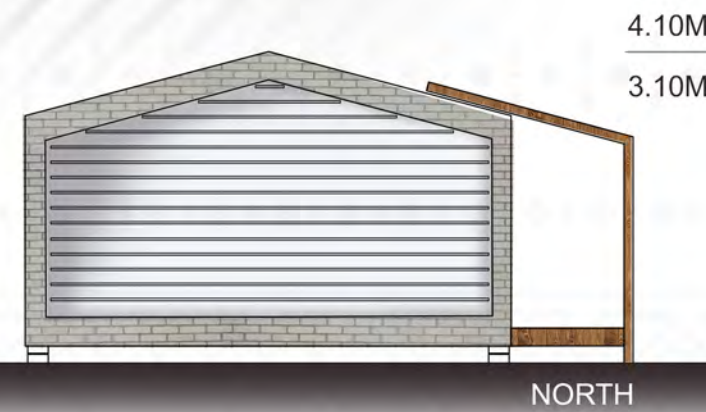
SUN - PROTECTORS  
VERTICAL - SOUTH



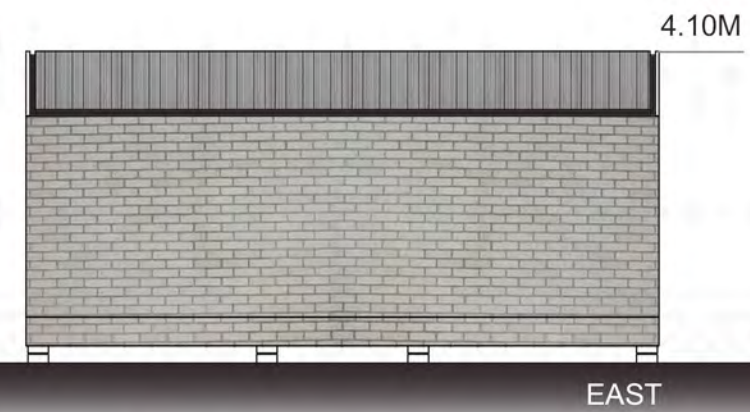
SOUTH



WEST



NORTH



EAST



# INTERIOR



TRADITIONAL SOUTH AFRICAN PAINTINGS



ALL OF THE INTERIOR WALLS ARE DRAWN BY THE INHABITANTS



**DAY**  
living  
dining  
cooking

**TRANSITION**

PORCH

**NIGHT**  
sleeing  
study

SUN  
PROTECTORS  
/HORIZONTAL - NORTH/

600sm

300sm

200sm

300sm

SUN  
PROTECTORS  
/VERTICAL - SOUTH/

## Project Description

### ROHO housing

**Rondavel house** + **home** = ROHO = spirit (swahili)

Collaboration between old and new, past and present, house and home.

Community and individuality have been taken into account with equal importance in order to achieve harmony.

The idea is to create a home that works well on its own, but to work perfectly in a neighborhood, area, city.

ROHO offers an easy-to-build structure at an affordable price using local materials.

Each ROHO structure will bring the spirit of the inhabitants through the interior paintings.

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#### Why

.. small house? - compact and inexpensive

.. these materials? - easy to manufacture, high quality, locally sourced



## Project Cost Estimate

		SIZE (sm)	PIECES	LENGTH (sm)	QUANTITY (sq.m)	QUANTITY (m)	cost (\$) approximately
CONSTRUCTION	bearing wooden beams	20x8	14	300		56	120
			7	200			40
	wooden beams	15x8	52	144			90
	wooden columns	13x13	12	245			150
ROOF	beams	10x5	6	310		18.6	200
	laths	8x5				64	120
	roof panels				50		200
WALLS	bricks /horizontal/		2	280x800	44.8		330
	bricks /vertical/		2	280xx800	44.8		300
	interior bricks walls /horizontal/			280x1500	42		310
	tiles /WC/				22.4		100
FLOOR	parquet				56		200
	tiles				4		20
FACADE	vertical wooden lamells	10x5	36	300		108	150
	horizontal wooden lamells	10x5	15	600		90	120
	windows				26		350
INTERIOR	windows / above walls/				6		50
	gypsum plaster /walls/				126		65
	gypsum plaster /ceiling/				60		50
	color paint						60
OTHERS	doors	80x210	4				200
	sun protection lamellas	8x8	14	570			30
	fitings						100
	electrical						150
	plumbing						150
Prices are taken from "LESOTHO HOUSING PROFILE" by UNITED NATIONS HUMAN SETTLEMENTS PROGRAMME					TOTAL COST		3655
<a href="https://unhabitat.org/books/lesotho-urban-housing-profile/">https://unhabitat.org/books/lesotho-urban-housing-profile/</a>							



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+ Home



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## MODULES



## NORTH



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