RISE IN THE CITY

CREATING SPACES TO LIVE AND GROW...

MOODBOARD

TRADITIONAL ARCHITECTURE

Adobe and stone made cylindrical form with straw canopy are most common. The earthen form protects against extreme heat and cold.

ROOFING

Pitched roof, hipped roof and indigenous hat form canopy; straw, corrugated sheet and clay tile are used as roof sheathing

CULTURE & LIFESTYLE

Bold colors and patterns used on the surfaces of traditiional homesteads reflect the vibrant life sense in the humble lifestyle of the native people.

image source: dreamstime

DESIGN CONCEPT AND RATIONALE

The core of the proposed design schemes stems out of some major realizations like: rapidly increasing demand for affordable housing as current urbanization rate is 3.15 percent, sustainable housing solutions with cost efficiency and energy efficiency, appealing aesthetically with cultural relationship. The design proposal aims at Creating Spaces rather than Designingkeeping in mind the individual demands of the individual families.

The design proposal has been developed aiming the mountainous landlocked country Lesotho which had annual population growth rate of 0.68 for the last decade from 2006-2016. Basic program for designing the housing includes housing unit that includes two bedrooms, living cum dining space along with service functions like kitchen and toilet. But the main challenge was to accommodate all the programs within extreme budgetary design proposal for the people of Lesotho with very low annual income.

Several convertible options kept possibilities for users in order to explore various planning for present and future as well according to the individual family needs. Families from housing unit can increase their habitable spaces with several options like units of two floors with two rooms or even four rooms. Families who cant afford to extend vertically but have need for more than two bed rooms can add another bed room sacrificing the backyard space. Not only the incremental options, according to the need they can build micro unit house option with only one bed room and living cum dining room along with kitchen and toilet.

To arrange all the functional requirement within the tight budget we have come out with the idea of sharing kitchen and toilet between the owner and the tenant ensuring proper privacy for the house owner at the ground floor.

Our design proposal aims at achieving healthy community interaction by arranging a yard space at the back of each house unit. Moreover these back yards are oriented face to face with green space buffer can create playful community interaction among the families living there. Women can develop their handicraft practices at these yards as the folding doors can create a common space combining the backyard and the room. These provisions and interventions will help the housing to achieve goal as stated before preference for created spaces rather than designed spaces. The vehicular pressure is kept on the other side of the housing units.

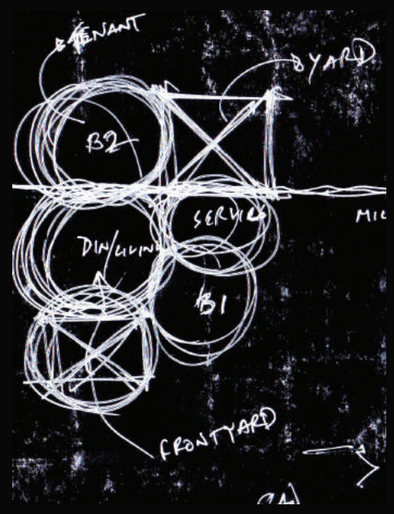
Materials are carefully selected considering cost-effectiveness, availability along with innovation and sustainability. 250mm brick walls are used for load bearing walls with mud plaster colored in indoor spaces and brick foundation as sub-structure. As roof framing saw pine time rafters have been used, corrugated aluminum sheets as roof sheeting, scarp or recycled wood or doors and windows and reinforced concrete with sand and crushed stone have been used. Beneath roof optional ceiling of plywood can be used as heat insulting material as it is very affordable and available material at site.

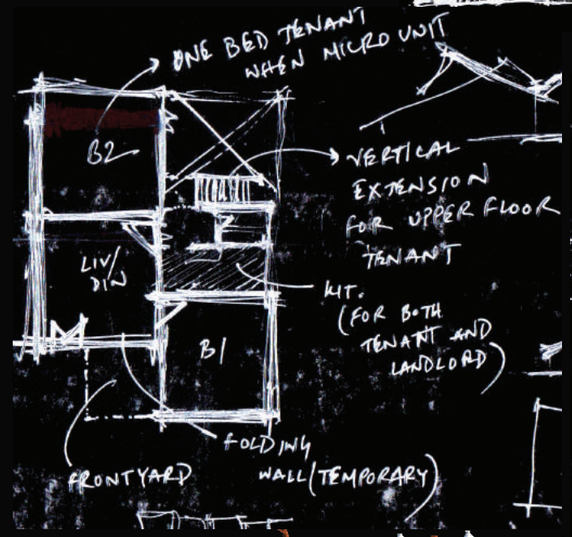
To encapsulate, within the extreme budgetary challenge the design proposal has come out with innovative community involving plans along with sustainable design solutions.

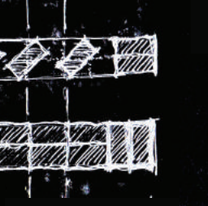
INTERACTION SPACE AT BACKYARD

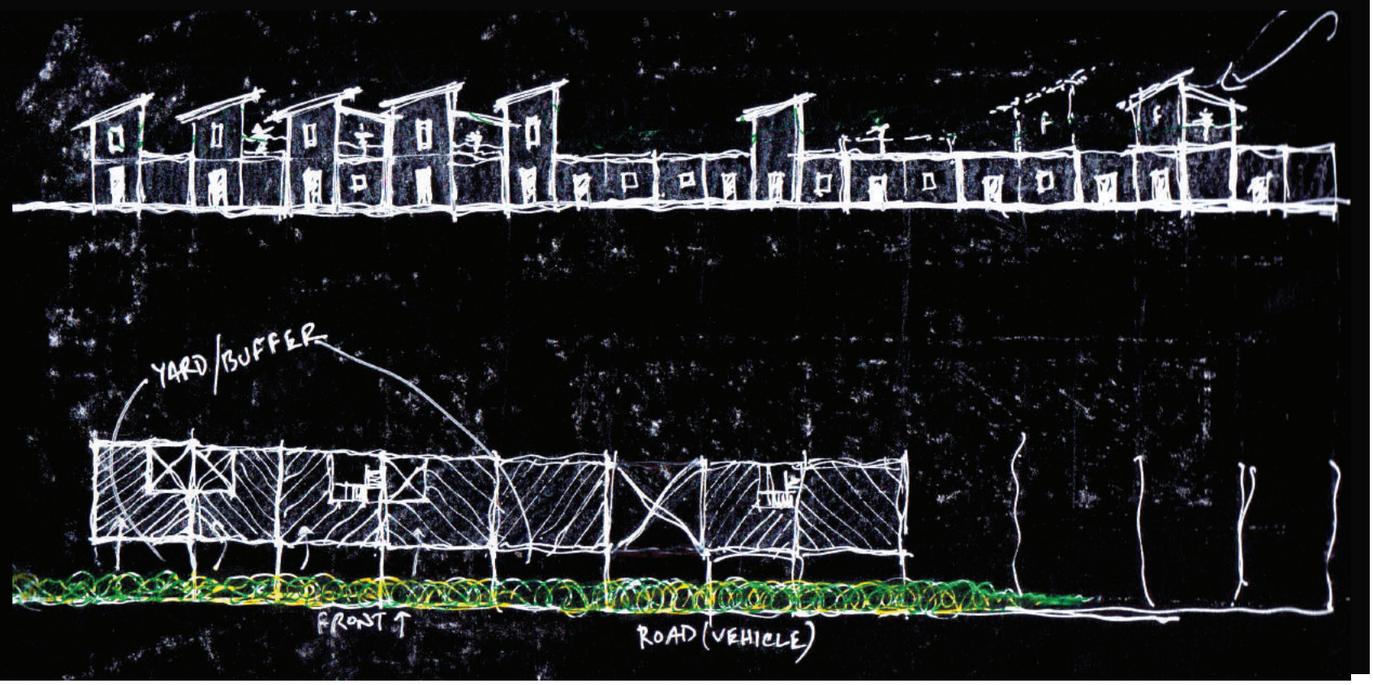
PROJECT DESCRIPTION

CONCEPTUAL DEVELOPMENT

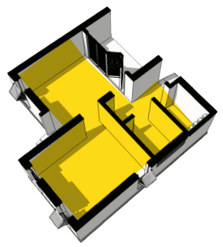




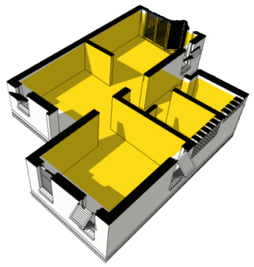




DESIGN DEVELOPMENT



For minimal need or very small family, the micro unit version - single bed with living-dining, kitchen, toilet and deck can be used.



The standard prototype has two beds, living-dining, kitchen and toilet within 520 sft.

The two bed prototype can extend to three beds horizontally or vertically.

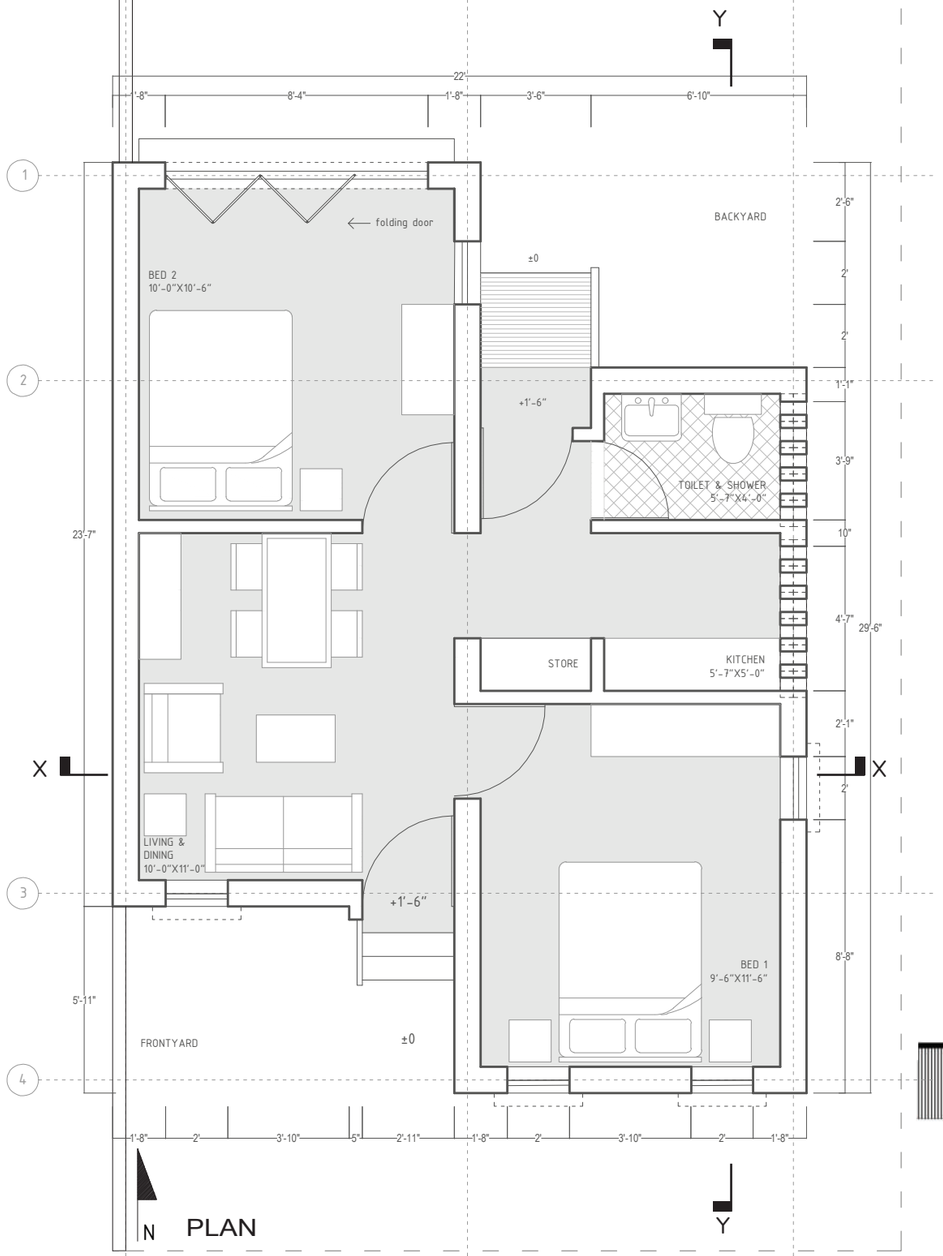
Vertically extended module might be used for rental purpose. There is also a terrace.

MODULE

SOUTH ELEVATION

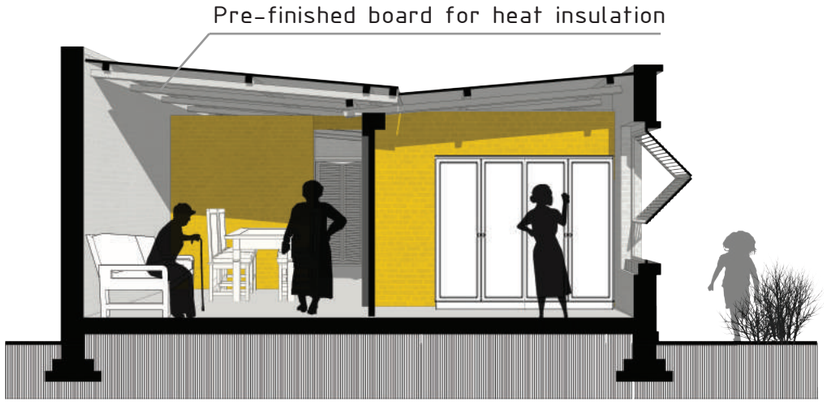
EAST ELEVATION

NORTH ELEVATION



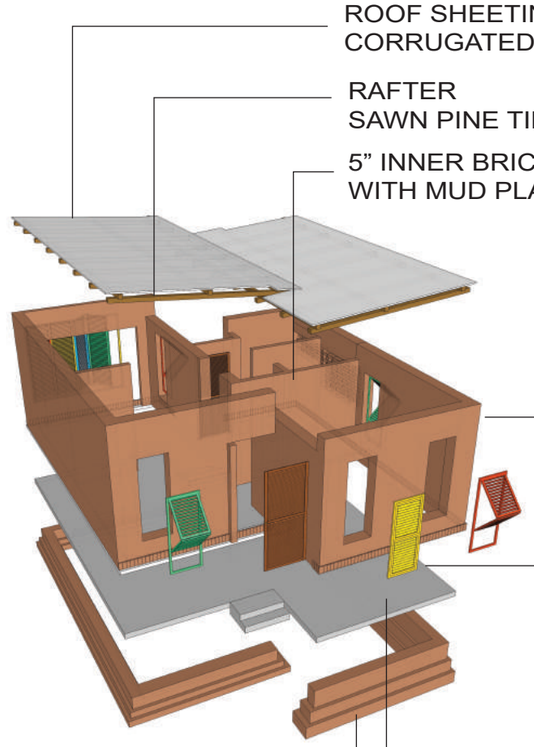
PLAN

This is the standard module which allows 2 bed with living-dining, kitchen, toilet, front and back yard. The floor area is around 520 sft.



SECTION X-X

SECTION Y-Y



BUILDING MATERIALS

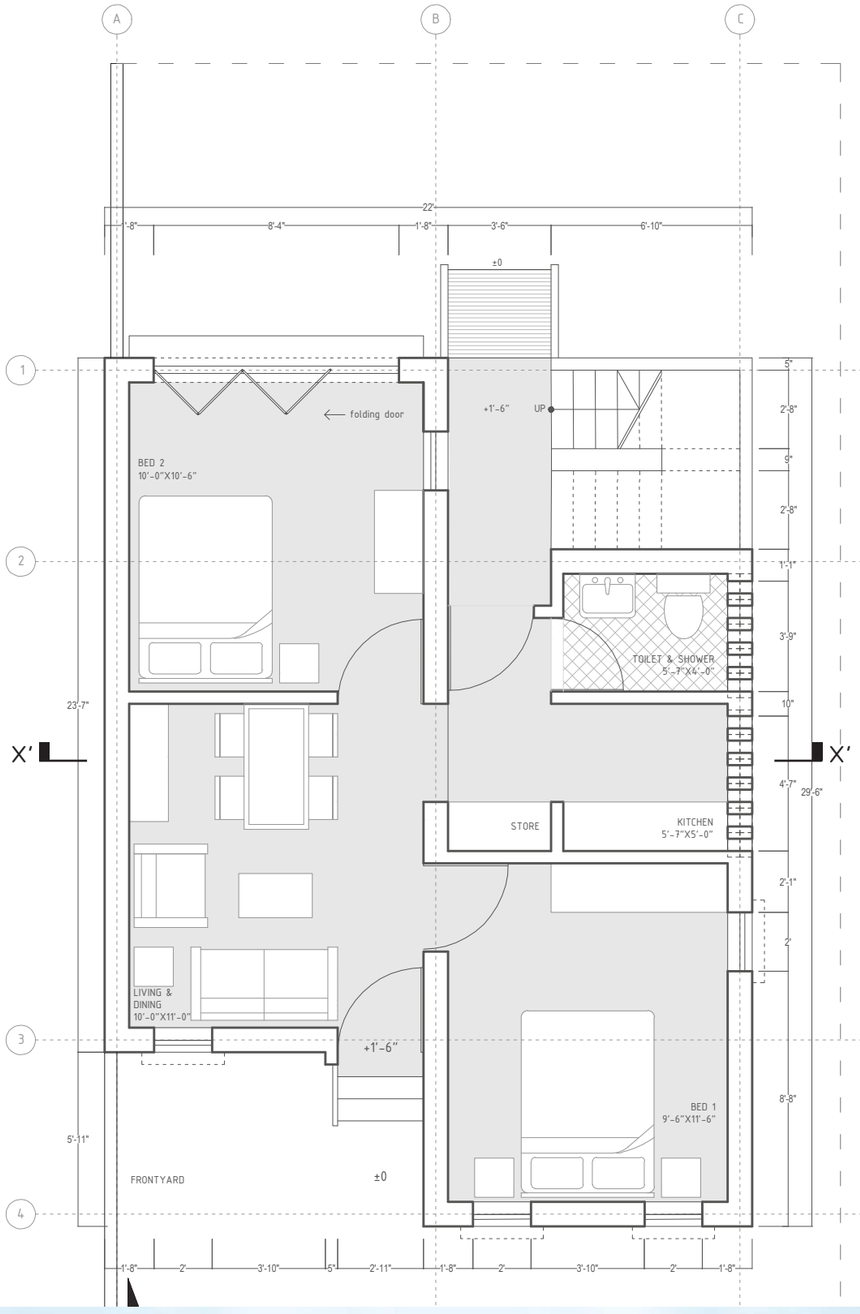
MODULE

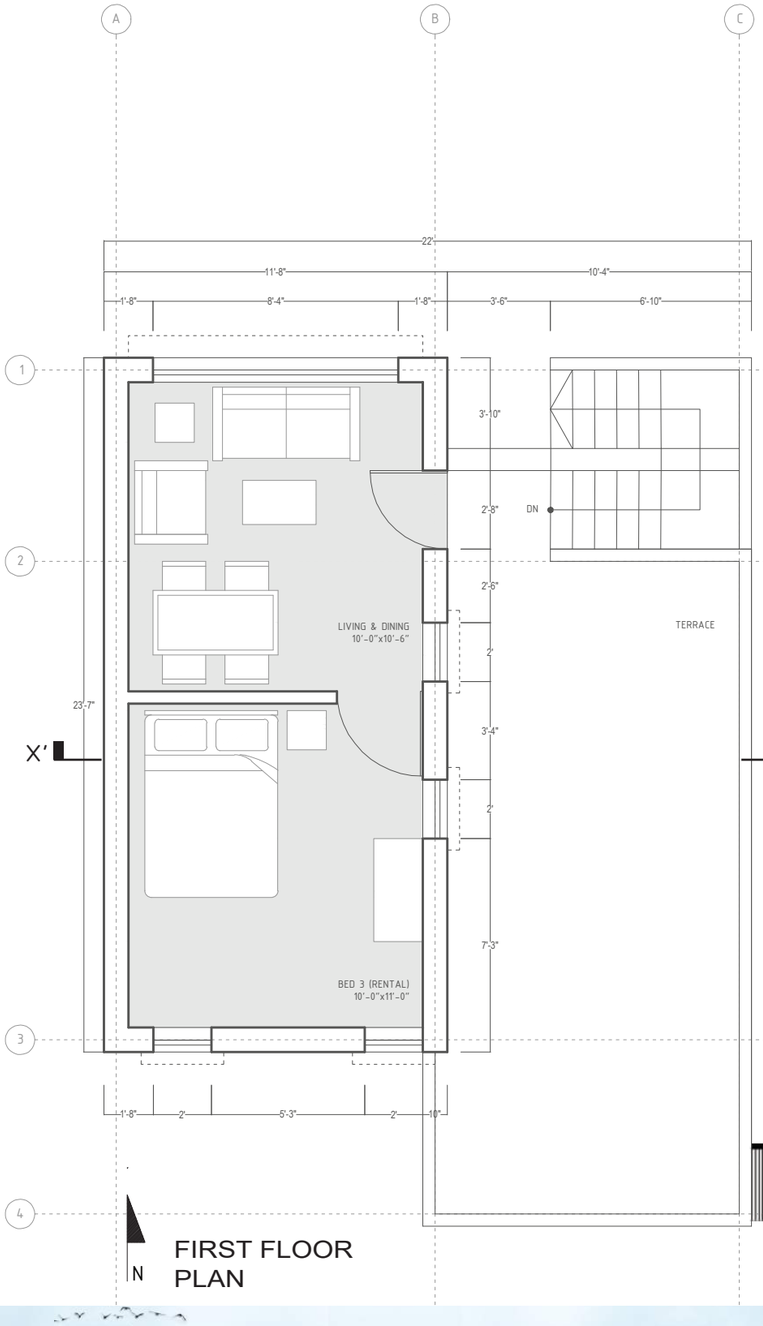
2 BED WITH VERTICAL EXTENSION

Those who can afford it, can make vertical extension of their house.

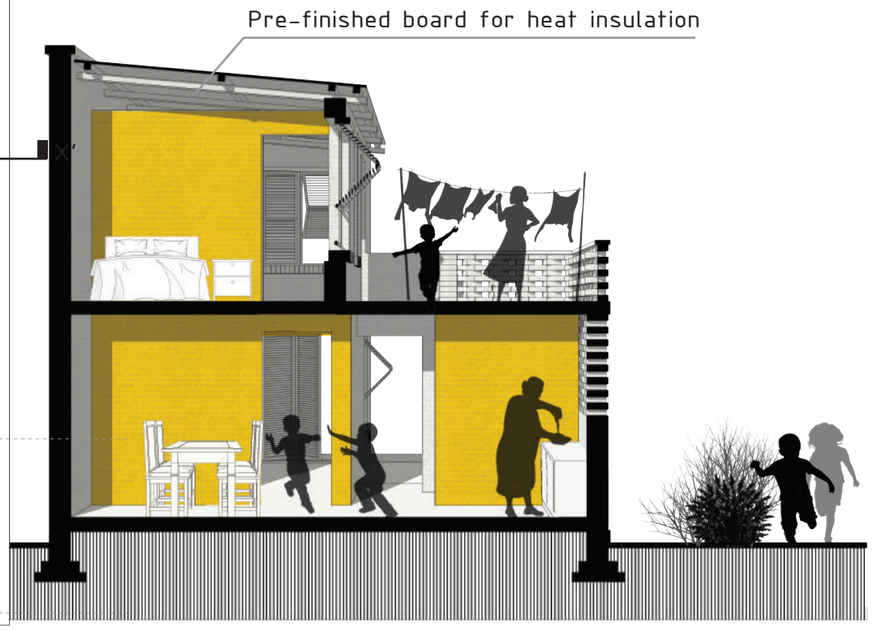
This module has 2 bed with living-dining, kitchen, toilet and yards on ground floor with a bed and living-dining on upper floor. There is also a terrace.

The upper floor can be rented.





FIRST FLOOR PLAN

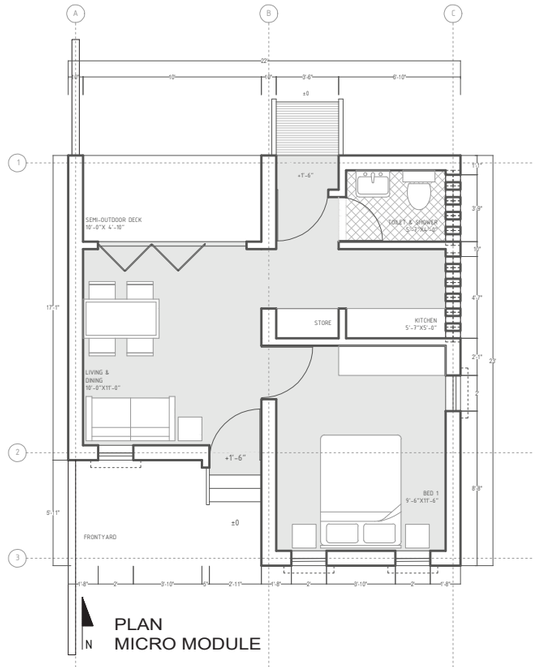


SECTION X'-X'

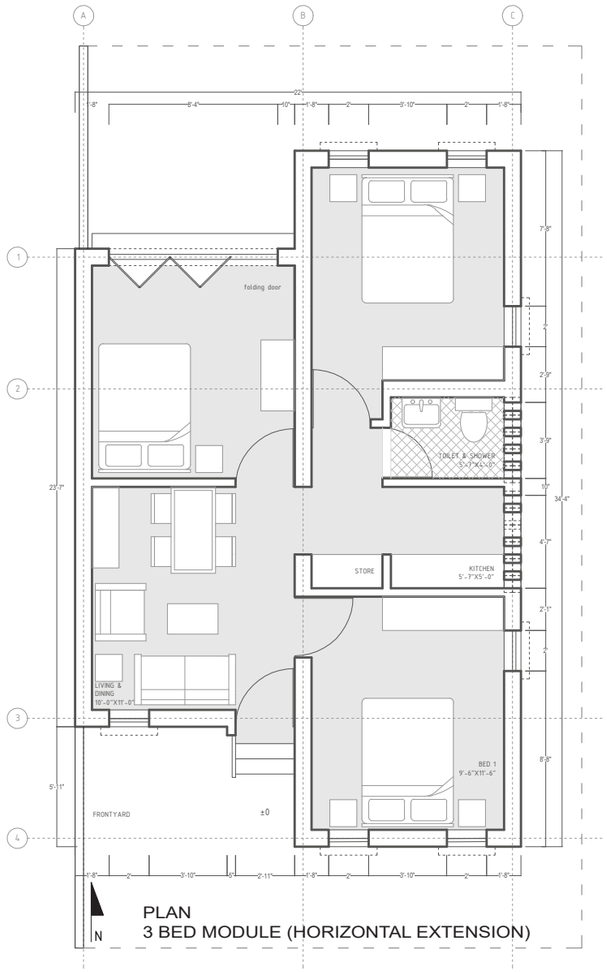
SOUTH ELEVATION

EAST ELEVATION

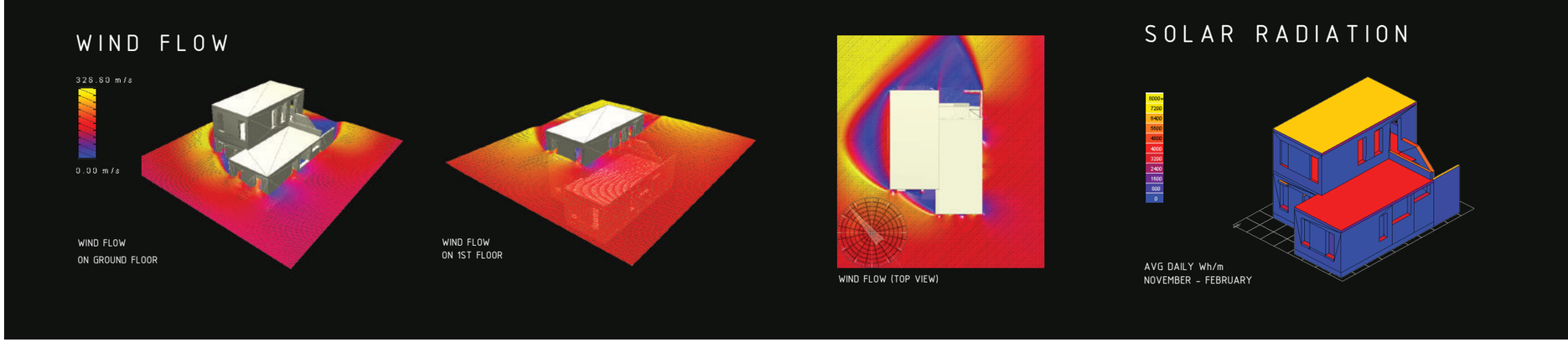
NORTH ELEVATION



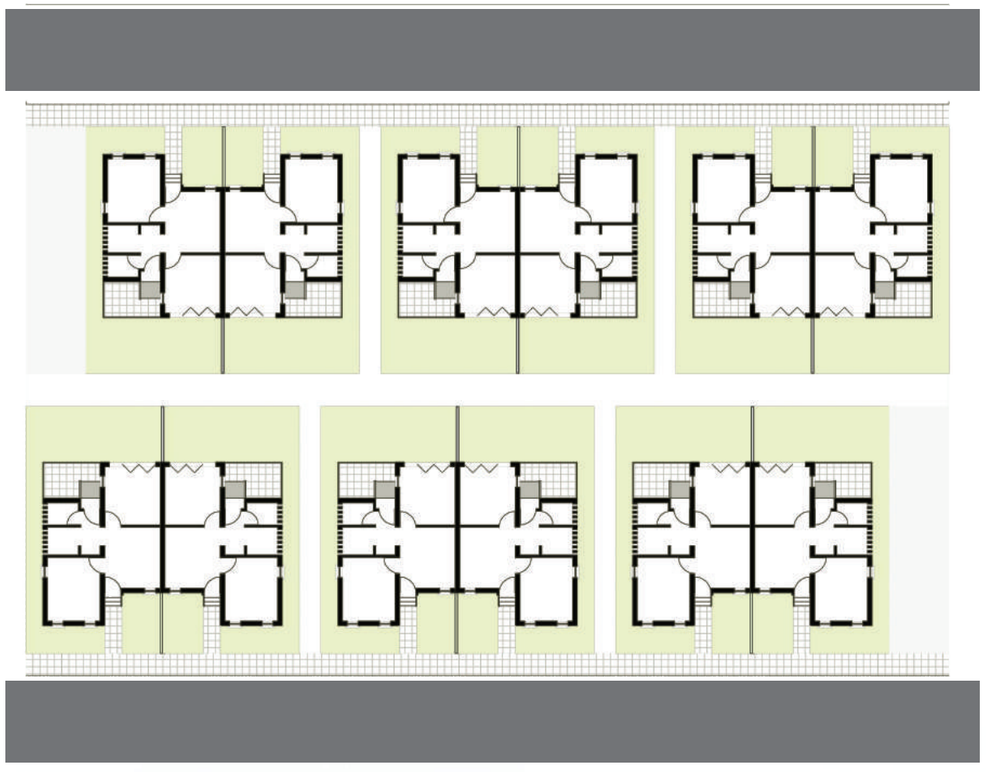
PLAN
N MICRO MODULE



PLAN
3 BED MODULE (HORIZONTAL EXTENSION)



ENVIRONMENTAL ANALYSIS



MASTERPLAN

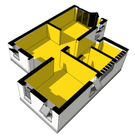
By combining row houses andblocks in shifting parallel rows, wind flow distribution is maintained all over the housing area. Spaces like terraces and yards encourages community interaction and removes negative space at backyard of house area. This assists in the betterment of social security.

view from roadside

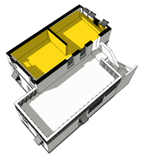
CREATING SPACES TO LIVE AND GROW...

The key consideration while designing this housing solution for the rapidly densified urban condition of Maseru is to create spaces that evolve with the lives and livelihoods of the people. A modular unit is designed which can be reconfigured, extended or adjusted to meet the spatial needs of its inhabitants.

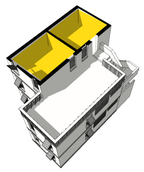
For minimal need or very small family, the micro unit version – single bed with living-dining, kitchen, toilet and deck can be used.



The standard prototype has two beds, living-dining, kitchen and toilet within 520 sft.



The two bed prototype can extend to three beds horizontally or vertically.

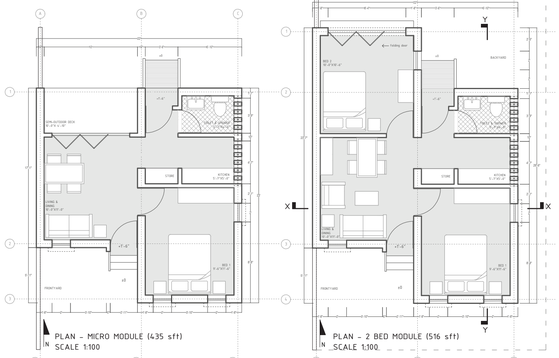


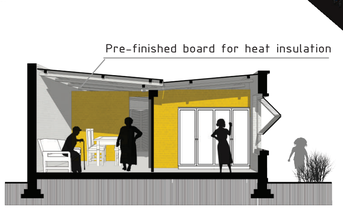
In case of future density, another floor of bed and living-dining can be added to the prototype model.

BIRD'S EYE VIEW OF HOUSING PATTERN

BACKYARD INTERACTION SPACE

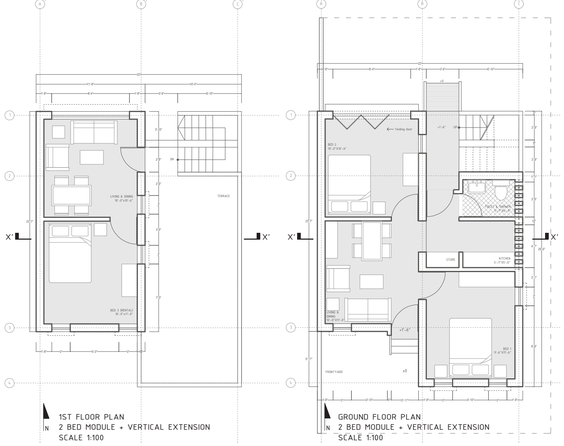
Vertically extended module might be used for rental purpose. There is also a terrace.

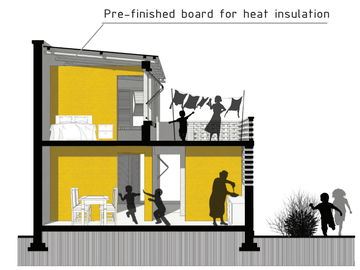




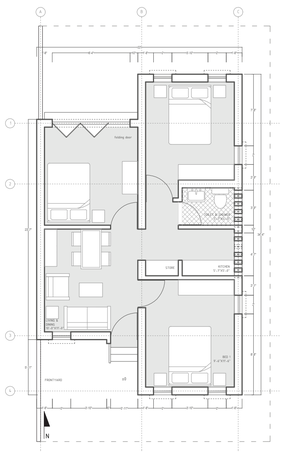
SECTION X-X

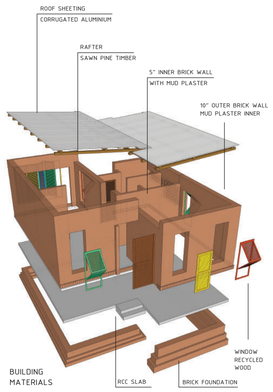
SECTION Y-Y

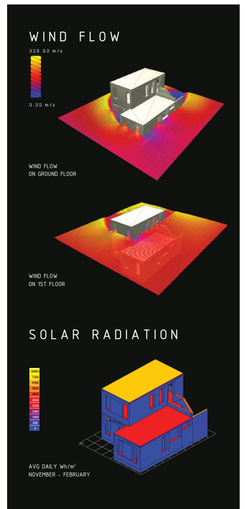




SECTION X'-X'





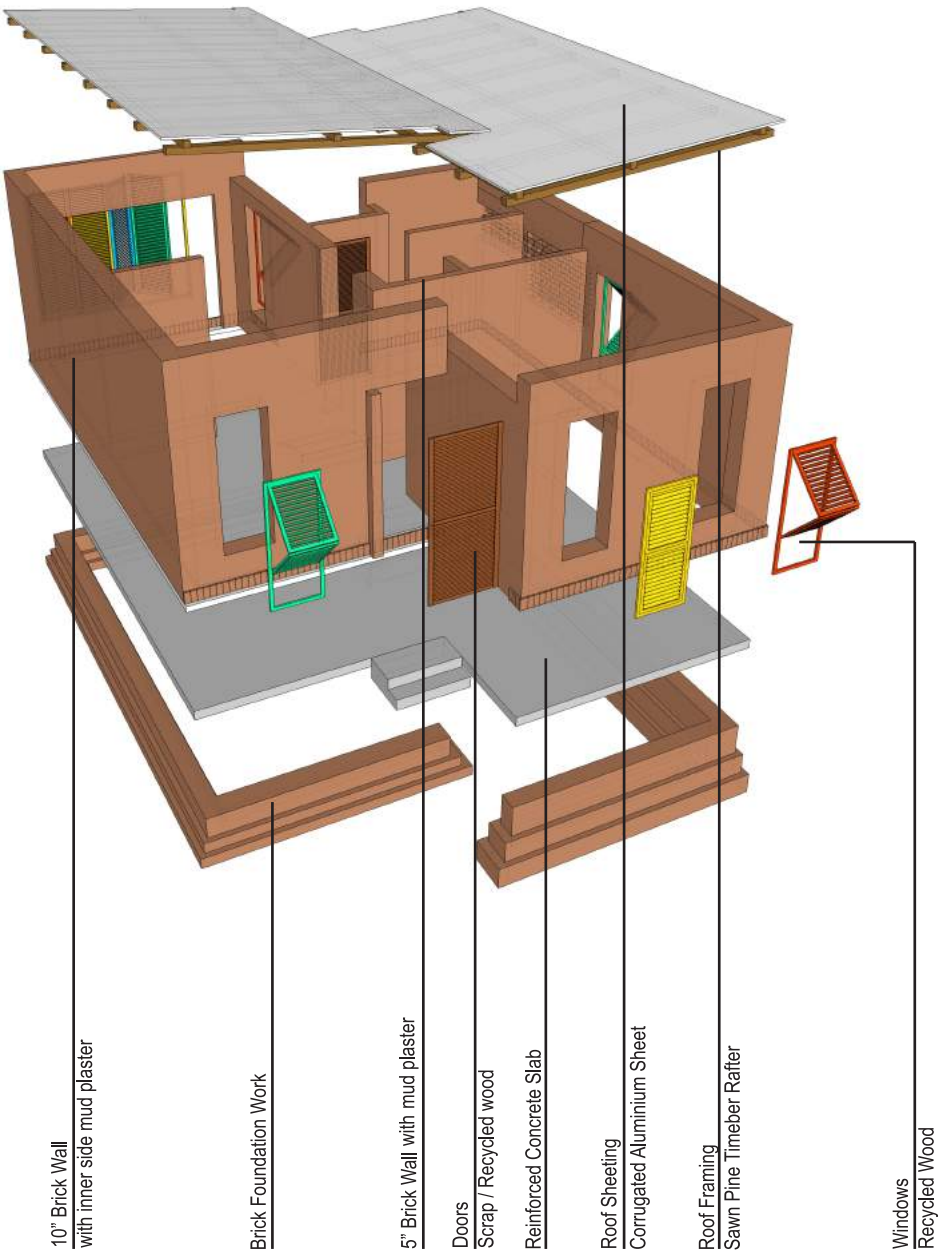


3D VIEWS OF ROADSIDE AND BACKYARD SIDE

Statement

The planning approach for the housing of people of Lesotho emphasizes to keep opportunities by obtaining Creating Spaces rather than Designing for the users to explore their day to day activities. Sustainable housing solutions with cost efficiency and energy efficiency through locally resourced materials were used with innovation that is aesthetically appealing with cultural relationship. Human centered approach was followed to understand and design solutions for the rapidly densifying community by keeping provisions for different incremental options as well as micro units option as well according to the needs.

Preliminary Cost Estimation



Breakdown of preliminary cost estimation with basic building material specification :

250mm Brick Wall with inner side coloured mud plaster (60 square meter)
9600M (160M per square meter)
2. 125mm Brick wall with both side mud plaster (20 square meter)
3200M (160M per square meter)
3. Brick Foundation work
250mm Brick works (8000M approx.)
4. Indoor Mud Plaster
140M per day labor cost x 2 person x 5 = 1400M
5. Reinforced Concrete Slab with sand, cement, crushed stone, reinforcement (6.1 qubic meter)
10335M (1695M per qubic meter)
6. Lintel (0.3 qubic meter - Concrete with reinforcement)
500M (1695M per qubic meter)
7. Roof Fmaing with sawn pine timber rafter (30m)
5000M
8. Roof Sheeting with corrugated aluminium sheet (42 square meter)
5500M
**Estimations for the two bed single house unit, increamental option may cost more in the foundation works.