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Gebrekidan G. Debre

Ethiopia

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NORTHERN PAFTA

by Gebrekidan G. Debre
Architect | Ethiopia

HONORABLE MENTION

Inspired by the culture of the Konso people of Ethiopia



DESIGN INSPIRATION AND SPATIAL ARRANGEMENT

The original inspiration of the design is from the KONSO people's specific house typology construction called "PAFTA." The Konso People live in Ethiopia about 600 km south of Addis Ababa. They Speak Afan Konso. The main Ethiopian Rift Valley of the Great East African Rift valley system ends here at Konso.

The "Pafta" are constructed on stone platforms that attain ~80cm high. They are built on thick poles (number between 8 and 12) of hard wood. The niche is located in the higher section between 100 cm and 150 cm above the ground and lined with timber from one end to the other. A small opening is left in the middle just near the central pole, which also serves as a ladder to access high into the niche.

The spatial arrangement is based on a typical, traditional, African way of life. Mostly in rural areas, families gathered around the cooking fire in the middle of the house. Specifically in Ethiopia there is always a coffee ceremony morning and night where all family members attend. In my design I accentuate the importance of this central spot (space) in the house both physically and programmatically by integrating it as a central interior courtyard that has strong connection with all the remaining spaces. It functions as a gathering space, celebration space, and dining space both formal and informal (for special days the fire place can serve as a grill to cook meat) and the open fireplace gives warm environment for the spaces around. Here the central pole from the original "pafta" is removed and the surrounding pillars are extended up to the top.

The transformation of this typical typology "pafta" into modern form is accomplished using original Ethiopian pattern called "tibebe". I implement this pattern both as a decoration element on the facade and on the overall form of the house as a space-organizing grid (pattern). The angular character of the pattern transforms the curved (circular) space into orthogonal shape which accommodates modern furniture and fixtures easily.

Tibebe is a very colorful pattern mostly composed of diamond shapes forming a cross. Mostly Ethiopian women from northern Ethiopia, specifically Amhara and Tigray regions, wear this dress.

MATERIAL PROPOSAL

Conceptually, the materials used are ordered hierarchically in terms of their weight and construction technique needed.

- Foundation: Stone masonry
- Frame: Wooden plank
- Walls on the Ground: Rammed earth (up to 2 m high), and timber (above 2 m)
- Interior walls: Rammed earth (up to 2m high) with plastering and waterproof finish around wet areas, and timber (above 2 m)
- Top floor: Wooden frame structure with waterproof layer
- Roofing: Wooden structure with clay slates
- Fenestration: Wooden frame and specifically designed patterns on RHS steel

All spaces have exterior openings that help to intake cool air from the surrounding areas and exhaust warm air through the wood strips at the top. The central courtyard is cross ventilated by the openings in the opposite direction and the opening at the top.

NATURAL (PASSIVE) AIR CONDITIONING SYSTEMS

All spaces have exterior openings that help intake cool air from the surrounding and exhaust warm air through the wooden strips at the top. The central courtyard is cross ventilated by the openings in the opposite direction and the opening at the top.

The stone masonry and mud construction of the walls serves as a thermal mass which increases the heat capacity of the building. This helps to regulate the internal spaces to an optimum temperature, one by maximizing the heat lag, and two by absorbing the heat during hot hours and releasing slowly during cold times.

CONSIDERATION TAKEN FOR FUNCTIONALITY OF AFRICAN KITCHEN

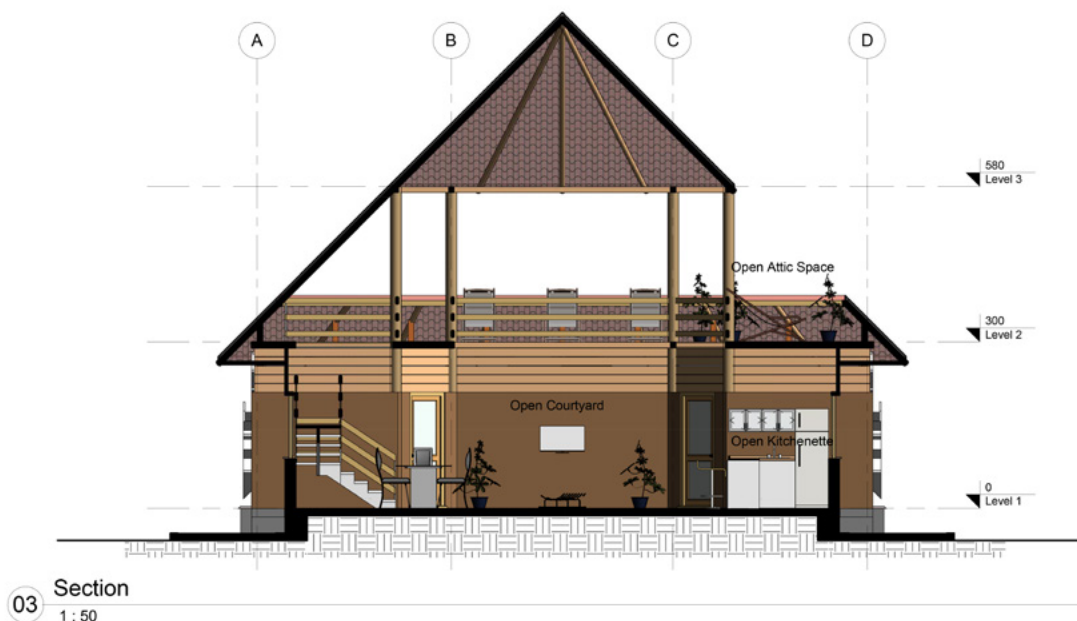
Since most African foods are spicy and pass through lot of preparation and cooking steps, there is always release of unwanted smoke and smell. Because of this I divide the kitchen in to two attached spaces. The first one is an enclosed space where all intensive cooking process takes place. The second one is more interactive and open to the courtyard. It is a place where light foods such as juice, vegetables prepared and by heating already cooked foods will be served on the breakfast counter.

SPECIAL PREFERENCE FOR AFRICAN HOMEOWNERS

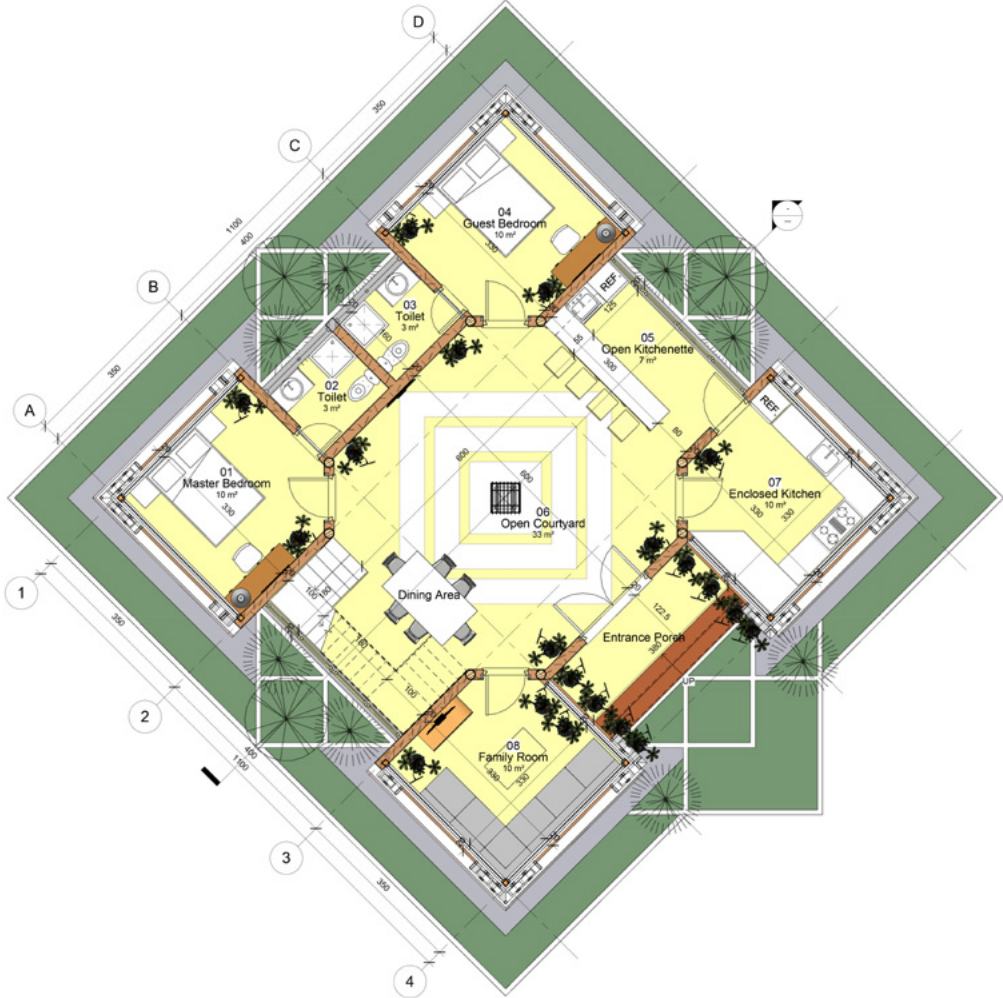
First of all it is a space that can give him/her a chance to live as his/her ancestors did, but in a modern way. So the client is not expected to compromise his/her traditions to fit in to this building. Rather, they will live with maximum psychological and physical comfort since it is specifically designed based on an original, African way of life. It is also designed and articulated with indigenous African patterns and building materials so his/her siblings and children will develop a sense of appreciation and confidence for their culture rather than admiring western (outside) culture.

UNIQUE FEATURES FOR BUILDING CODE

The fenestration pattern with vertical gardens could be taken as a facade design and developed into opening design regulation with ratios and proportions developed.



GROUND FLOOR



MEZZANINE FLOOR

