Kaira Looro Architecture Competition
Women's House

NAME OF THE PROJECT: L'Or Bleu House

1. **DESIGN**

The name L'Or Bleu House is inspired by a Dakar exhibition entitled "Sur les Traces de l'Or Bleu / Mémoire de l'Indigo Au Sénégal" (In the Footsteps of Blue Gold / Memory of Indigo in Senegal), where Indigo is explored as a traditional element that pays tribute to the great women of Senegal. A natural element traditionally worn and used by both men and women, indigo became a symbol for the sense of healing and equality. The driving concept of L'Or Bleu House is to incorporate such experience and tradition as a form of sensory communication. This in turn expresses that gender equality can be achieved through the discernment of women as not as a fragment of men but equal - thus diverging from the bias of defining one single gender as more elite.

Upon arrival to L'Or Bleu House, indigo textiles, inspired heavily by the notion explored above, become visible inside the walls of the building where they conceal a private courtyard (15m2) flooded by natural light. This space is the heart of the project where under the shade of a mango tree people can socialize, empathize and share. The activism of local associations is a pivotal to the operation of the house. The spaces are thought to be used in different ways to help local people to combat inequality. The multi-purpose space (100m2) is a circular room which can host different activities, such as educational workshops about agriculture, textiles, and also domestic lessons for families. The curved wall also acts as a screen for the projection of educational films concerning

gender equality. The two lateral volumes (85m2 combined) are flexible spaces that can be used as offices or turned into private meeting or consultation rooms.

The project aims to evoke an experience that is inherently connected to the movement towards gender equality. The architecture appeals to basic instincts and senses through sophisticated manipulation of natural light, intensely tactile materials, and forms that relate to being nurturing, powerful and meaningful. A visitor to L'Or Bleu House will experience fond emotions of joy, appreciation, and tranquillity in exchange for people's participation in the space. This concept is driven by the various modes of personalizable elements within the building, which can give each replicated design a unique feel. The premier example of this is the fabrics that enclose the central courtyard. The fabrics define corridors, diverting visitors and displaying the important traditional techniques of indigo fabrics. By being an integral part of the architecture it is intended to form a need for creative participation in the space and, in exchange will contribute to an ever-growing tapestry that symbolizes the progress towards gender equality.

Designed to be built by the local community, L'Or Bleu House will become an iconic example of the power of community participation and ultimately represent the identity of Baghere. Extending from the symbolic purpose of the indigo fabrics, other aspects of the project are similarly intended to showcase the admirable achievements of the local community. Surrounding agricultural plots represent the significant role women play in food production in Senegal, while the screen element hanging from the roofline embodies the spirit of local handcrafting of bamboo fences.

Inspired by intrinsic characteristics of the vernacular architecture of the area, the form encompasses a central rainwater tank, emphasising the value of having a source of water. The geometry seeks to relate to the natural context softly and respectfully while using traditional materials like earth to build the walls and

straw for the roof. The walls do not only enclose space but define a series of corridors that invites the surrounding context into the building. This is integral as greetings and the moment of arrival are meaningful social constructs to the local culture and is hence represented in the architectural language.

L'Or Bleu House is in its nature sustainable and environmentally friendly, embracing materials that are strictly biodegradable or compostable. Rammed earth, as an example, has exemplary thermal mass properties to help with building performance. The architecture operates as a passive building. An inverted roof collects rainwater naturally in an underground tank to serve as a natural cooling system. This functions by flowing surplus rainwater through bamboo piping concealed in the floor during the hot summer monsoon. This works in unison with the natural ventilation, creating a cool pressure to push warm air out through the shaded screen element.

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2. MATERIALS

Foundations: An innovative foundation solution is proposed by up-cycling used tyres. This method is efficient, low in cost and enhances building performance. Tyres are easily obtainable, infinitely durable, resistant to changes in moisture and so will provide the building with a favourable microclimate. Also while contributing to a global waste issue of used tyres in undeveloped countries, this method should advocate benefits of up-cycling in architecture to the local community.

Walls: Locally sourced clayey earth will be used in an appropriate ratio to cement, gravel, river sand and straw. This mixture of natural materials comprizes an appealing building material for undeveloped locations due to its availability, low cost, and

uncomplicated nature. It is a robust material that can be very easily maintained, repaired and removed.

Roof: Bamboo (R~40mm) is used for the roof trusses and columns for its incredible properties of lateral strength and being a low-cost and light building material. Wild bamboo is then used as a substructure under natural coconut leaves for waterproofing and then topped with a layer of thatched straw.

Screen: Made with wild bamboo.

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3. CONSTRUCTION

The construction begins by marking the ground using the basic geometry derived from the design. Next, a light 500x400mm perimeter excavation is carried out for the foundation of the walls and filled with a mixture of stones and cement. A rainwater tank is dug into the ground in the centre of the building.

The tyres are then spread across the ground and filled with earth providing a stabilized, elevated floor. Bamboo piping is laid under this ground level leading from the tank to the outside.

The walls are cast on-site in three varying, custom wooden form-works at 400mm thick. Panel by panel, the walls are packed with an earth mixture. This process reduces one-time material cost and hence waste, resulting in very efficient construction and teaches the community a new building method.

Bamboo trusses and columns then complete the building's structure. The roofing is supported with a wild bamboo sub-structure, a layer of coconut leaves for waterproofing and a layer of thatched straw.

Concurrently to the build, a bamboo screen is constructed using traditional fence-building methods. Finally, the screen is wrapped around the perimeter and fixed it to the outside of the truss.

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4. ESTIMATE OF MATERIAL COSTS

Material	**Quantity**	**Total Costs (€)**
Bamboo for structure	740m	481,00
Bamboo local fence for screen	160m	216,00
Broken tiles for floor	170m^3	340,00
Cement	31968kg	2986,76
Cement brick for cordolo	1280	1024,00
Laterite shapeless stone	1t	154,00
Natural makati coconut leaves *(waterproofing)*	350kg	1253,00
Red clay for walls *(30 percent claimed from site)*	46t	3916,80
River sand	200m^3	466,00
Straw for roof and walls	1155m^3	254,10
20,000L water tank	1	3200,00
Tyres	N/A	0
Indigo fabrics	N/A	0
Wild bamboo	690m	69,00
Wood for wall formwork, doors and windows	70,8m^2	1012,44
	Total:	**15373,10**