BIG 5

TALKS



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Beyond Concrete & Steel : The Future of Alternative Building Technologies in Africa

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01 BACKGROUND

Why Africa Needs To Revert To Unconventional Construction.



Driven by:

- Concern on affordability and resource constraints.
- The need to safely accommodate the rising population.
- The need to balance the rising climate and environmental pressures.
- To preserve our cultural heritage and take pride in our indigenous ways.

Are they viable at scale in terms of safety, costs performance and comfort for the end user?

02 OVERVIEW

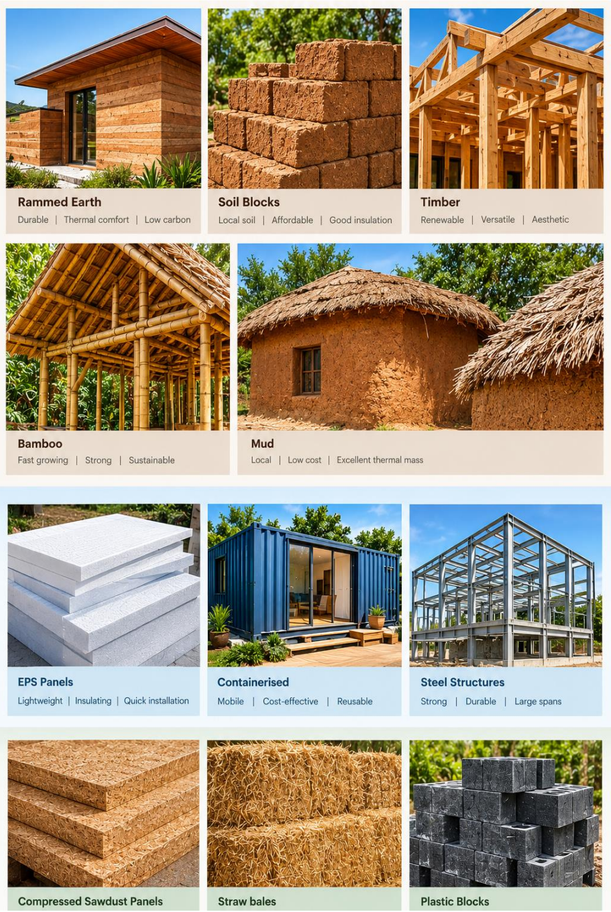
Understanding of Alternative Building Technologies.

Options such as:

- Traditional systems like rammed earth, soil blocks, timber, bamboo, mud etc
- Modular/prefabricated systems.
- Recycled/Repurposed materials.

Comparison to conventional construction against:

- Cost - construction and maintenance.
- Performance-durability, resilience and comfort.
- Time taken - labour productivity and convenience.
- Sustainability - Sourcing, utilization and disposal.
- Regulatory acceptance - Standards and certification.



This is not meant to be a competition but open it up as a viable path based on the project constraints such as location, building type etc and needs such as personal/market preferences.

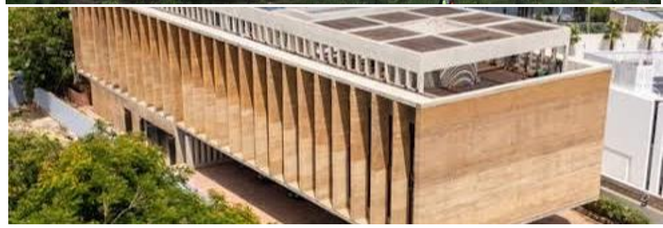
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03 CASE STUDIES

Virtual Tour of Projects Across Africa.









A. Startup Lions Campus in Kenya by Arch. Francis Kéré & Build X Studio

An information and communication technologies (ICT) campus. It is built out of locally sourced quarry stone with a plaster finish and takes inspiration from the towering mounds built by termite colonies in the region.

B. Erebero Hills in Uganda by Pablo Luna & Studio Akeka

A luxury bamboo lodge build using bamboo and includes a hillside swimming pool, a sunken fireplace lounge, a dining area and in-room spa treatments.

C. Adjaye Studio in Accra, Ghana by Arch. David Djaye

A four-story building featuring rammed-earth walls, designed to house up to 180 people. It includes Includes open-plan studio levels and a public/gallery area.

D Maternity Hospital in Malawi by MASS DDesign Group

A maternity waiting facility that houses expectant mothers from remote areas before they give birth. It is built out of compressed stabilized earth blocks made from local soil and takes inspiration from the layout of traditional Malawian family compounds.

STARTUP LIONS CAMPUS











photos : © kéré architecture

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EREBERO HILLS

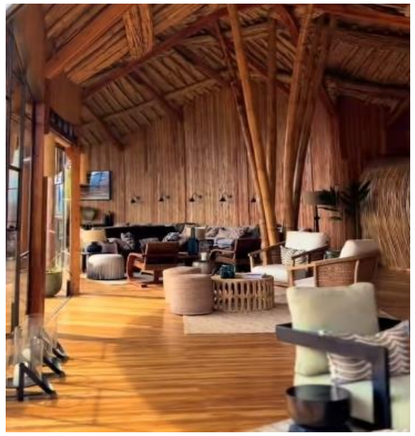


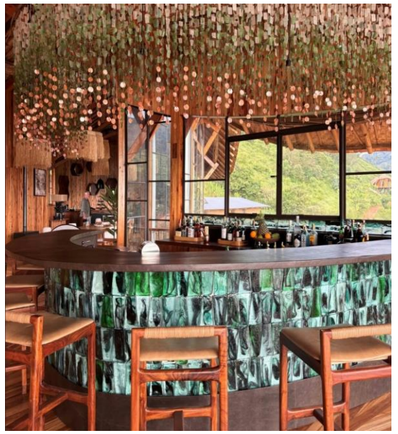












photos : © asilia africa

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ACCRA STUDIO













photos : © adjaye associates

KASUNGU MATERNITY WAITING VILLAGE











photos : © mass design group

04 INVESTMENT OPPORTUNITIES

Emerging Business Opportunities Beyond The Housing Conversation.



Most viable disciplines:

- Hospitality and Tourism such as eco lodges, wellness centres and resorts.
- Social amenities such as schools, healthcare,play areas and assembly halls.
- SMEs in furniture production and related accessories using bamboo.

Evaluation criteria:

- Availability of respective local materials
- Availability of specialised skills
- Scalability
- Lifecycle cost
- Market perception
- Existing regulations

05 BARRIERS

Why Adoption Is Still Slow.



Market Perception:

- Considered inferior on 2 basis. First is the mindset of associating it with primitiveness and lack of enough projects to provide confidence in resilience.
- Mistaken to be automatically cheap on the basis of having readily available materials.

Skills and Knowledge:

- Limited knowledge amongst building professionals which is at times deliberate.
- Rigid academic curriculum.

Financing:

- Unfamiliarity with the lender due to ack of standards thereby even making it difficult to provide insurance guarantees.

06 CALL TO ACTION

What Needs To Be Done.

Generally is to move from fancy concepts and admiration to implementation.



The Government:

Take up the assignment by experimenting on the technologies to boost public confidence. This can be in building of social amenities as part of its general mandate, a role currently only widely taken up by NGOs at the moment.

The Professionals:

Embrace wide exploration in their practise as this will put more pressure in the market for adoption and eventually regulation. The skills will always follow and grow periodically.

Aspiring Property Owners:

Invest in product development and approach this discipline holistically rather than a means to escape realities of construction.

APPENDIX















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CASE EXAMPLE





2 BEDROOM BUNGALOW
PLINTH AREA - 87 SQ.M | WALL AREA - 140 SQ.M
SPACES - LOUNGE, KITCHEN, DINNING & 2 BEDROOM WITH COMMON WASHROOM

RAMMED EARTH

AVG. COST/SQ.M - KSH 4,800

MATERIALS - 46%
FORMWORK - 14%
EQUIPMENT - 6%
LABOUR - 34%

ISSBs

AVG. COST/SQ.M - KSH 3,200

MATERIALS - 46%
FORMWORK - 14%
EQUIPMENT - 6%
LABOUR - 34%

MACHINE CUT

AVG. COST/SQ.M - KSH 3,800

COST DEPENDS ON MIX DESIGN, FORMWORK & GENERAL LEVEL OF EXPERTISE.

KANABA COMMUNITY HALL











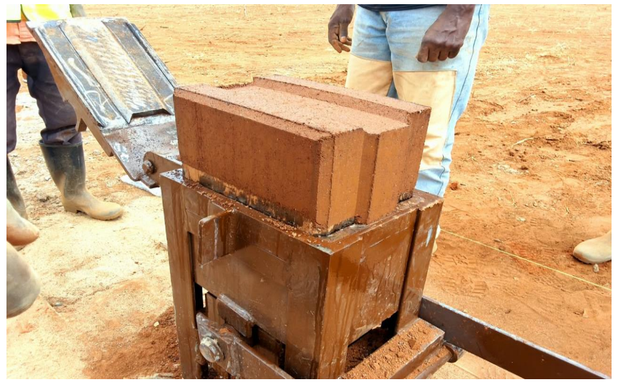
photos : © fight for the forgotten

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HEDOS HOMESTEAD





















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PORTFOLIO

Kanaba Community Hall in Uganda

Hedos Homestead in Kenya

Our Related Service in ABMTs

Building With Bamboo in Bali

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Thank you

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