Every Shelter

EXAMINATIONS IN RELIEF ARCHITECTURE

The Tukul of Eastern Sub-Saharan Africa

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INTRODUCTION

OUR MISSION

Is to build localized refugee-aid ecosystems centered around the needs, preferences, and aspirations of refugees.

INTRODUCTION

Every Shelter exists to help refugees and displaced families create "home" wherever they are, for however long they remain there. Our mission is to re-localize refugee-aid ecosystems to revolve around the needs, preferences, and aspirations of displaced persons.

To Every Shelter, "home" transcends the confines of a physical space; it encompasses a profound sense of belonging, stability, safety, and comfort. It represents the realization of a dream—an environment where refugees can establish roots, find solace, and thrive. Every Shelter's vision for the future is one where each and every refugee has the power to create their own sense of home.

Every Shelter is building a sustainable ecosystem that recognizes the agency and resiliency of refugees. The journey towards a true sense of home is multifaceted, encompassing aspects beyond physical shelter. By addressing social integration, economic engagement, and built-environment innovation, Every Shelter aims to unlock the potential within each refugee, allowing them to rebuild their lives with dignity and hope.

In essence, Every Shelter seeks to reconfigure the humanitarian aid sector to put refugees and displaced peoples back in the center of their own story.

Scott Key
Co-Founder of Every Shelter

TOWARDS CONTEXTUAL HUMANITARIAN DESIGN

Scott Key

At Every Shelter, the future of humanitarian aid starts with a refugee or displaced person at the center of every decision related to their livelihood and well-being. Our work is driven by a relentless desire to put the displaced person and their experience back in the driver's seat of their lives.

One of the critical problems in our sector, where design meets aid, is that in most cases, refugees are most often treated and kept as passengers, not drivers, in the story of their recovery and rebuilding. As a result, often, the solutions we see designed don't hit the mark as they should. Every Shelter exists to change that.

For example, an architect would only accept a new client and then deliver a final design collaborating with the client. But why is it ok to design new shelter solutions for displaced persons without consulting them? This is the norm in our sector.

In recent months, we have seen housing solutions developed by Foster + Partners and Zaha Hadid Architects widely promoted and celebrated in design circles. A consortium of architects was convened in Madrid under Lord Norman Foster and Shigeru Ban. Still, there wasn't a single person in attendance who needed to live in a temporary shelter for decades. At that gathering, it was even stated by Elena Giral, Project Manager for Emergency Shelter and Emergency Transport & Logistics at the European Commission,

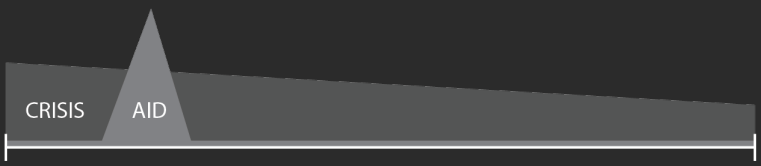
"Architects are not sufficiently prepared to understand the complexity of humanitarian settings, and emergency responders are not sufficiently prepared to understand the complexity of inhabiting a space. So we need to bridge that gap."

But one thing that statement glaringly misses is the displaced person him or herself. It illustrates Every Shelter's primary contention: no humanitarian aid will succeed if the aid recipient is not also at the table to design the solution.

Traditional Tukul

We believe that the path to "solving" the global housing crisis (particularly around displacement) will utilize more solutions that are "of" the place where the displaced families are from and are hosted. And we advocate that architects and designers should be suspicious of solutions that do not originate from the places they are meant to serve and succeed in. We are done imposing solutions from conference rooms detached from the lived realities of displaced people. We are ready to assist displaced people in improving their solutions and systems to serve their needs better.

As of June of 2023, over 108 million people are displaced worldwide, and the number is expected to bridge 250 million in less than 30 years. There is no shortage of emergencies to respond to with new ideas. And in these displacement events, there are at least two phases; emergency response and protracted crisis. The aid industry focuses heavily on the emergency response phase and relies on imported solutions that fail within months of implementation as the crisis progresses into something long-term. After emergency funding dries up, there is no longer-term plan in place or funds available to invest in solutions that last beyond the acute moment of crisis. Refugees will now be displaced for over two decades on average–but all the money gets spent on the front end of that timeline.



Many design solutions rightly try to focus on longer-term solutions but often miss the forest for the trees. Do these solutions address the realities of many local host contexts which disallow permanent building solutions for displaced populations? Do they consider how they will manufacture, import, and implement highly complex solutions in resource-scarce settings? Many design solutions offer "silver bullets" with assumptions that they can be globally applicable. But different geographies have different climates. Different people groups have different needs and preferences. Different cultures have

different values. Many solutions are paternalistic, even if by accident, ignoring realities on the ground and not spending the time to read and understand the cultures they are trying to operate within.

Worst of all, solutions imposed by well-meaning but detached designers have one easy giveaway: they rarely focus on locally available goods for manufacturing and build-out. To put this another way, lots of humanitarian shelter design is predicated on a simplistic objective of pumping out modular solutions, as cheap as possible, at scale, to be imported to the country or region in need from a factory on the other side of the world. Why is this the worst? Because it doesn't open the door to opportunity. 86% of refugees are hosted in underdeveloped countries, economies where jobs are scarce.

We need new frameworks and systems to address this growing global housing crisis adequately. Our argument is not that Western designers have no place in the conversation but rather that the process for "designing for refugees" should look much more akin to the methods most firms already have for their existing clientele; a process of learning locally and not assuming globally. Our contention is not that mass solutions are impossible but rather that those mass solutions must be geographically bound. The reality on the ground is that most refugee shelters are self-built. To rephrase this, refugees are not waiting for someone to help them; they are helping themselves. We believe the better way is to recognize and support this energy.

Into this need, we have created Shelter Depot. Shelter Depot is a tool to support contextual housing solutions, homes that, in each context, refugees are likely already constructing for themselves.

Shelter Depot creates access to life-changing goods and services. They are designed to adapt to every setting in which they are deployed regarding goods, solutions, and methods. Our vision is that they are within walking distance of every refugee in a place. They can respond more to their needs and demands because they are situated "of" the people. This model restores agency to a group that largely has had it stripped away from them. Each person can come to the store with their particular need or preference and access what they want to continue in their journey of rebuilding a life and home for themselves.

Shelter Depot in Zone 5

Elidah Yawe

Within these contexts, there are still many problems that families face. This is not an argument away from an outsider's perspective in helping, but rather an example of a more productive and dignifying framework. This booklet is an attempt to model a better process to address refugee housing in protracted crisis, a process that we organize in the following way:

See & Celebrate
Listen & Examine
Speculate & Collaborate

The contents and solutions proposed in this booklet are quite geographically bound. They focus on a housing typology found in Northern Uganda in the Bidi Bidi Refugee Settlement, consisting of residents hailing primarily from South Sudan. The dominant vernacular architecture is a home known to outsiders as a "tukul." There is much to celebrate about this typology regarding building performance and community preference. However, there are grievances expressed by the community.

Instead of ignoring what is working and proposing an imported solution lacking context, Shelter Depot allows us to imagine a local supply chain that speaks to the stated grievances of this community and offers new solutions that work for the long haul.

Until every refugee creates home.

Scott Key
Co-Founder of Every Shelter


Uganda

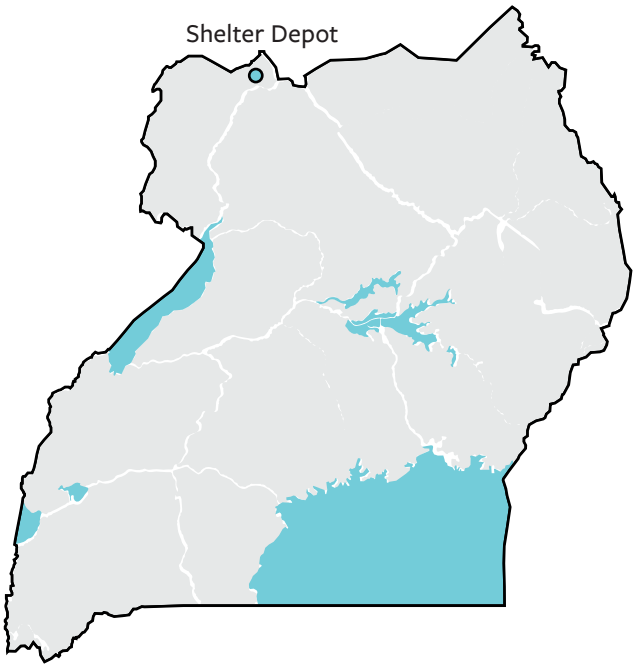
Background & Context

BIDI BIDI, UGANDA

The Bidi Bidi refugee encampment is located in North-West Uganda, close to the city of Arua. The climate can be described as tropical and generally characterized by two distinct seasons: the rainy season and the dry season.

During the rainy season, typically occurring between March and November, the area experiences significant rainfall. The precipitation is higher during the months of April, May, and October. The rains help to nourish the vegetation and support agricultural activities in the region. However, it's worth noting that the intensity and duration of rainfall can vary from year to year.

The dry season in Northern Uganda, occurring between December and February, is characterized by lower rainfall and higher temperatures. During this time, the weather is generally hot and sunny, with minimal or no rainfall. The dry season is often associated with dusty conditions due to the lack of precipitation.



Map of Uganda


SEE & CELEBRATE

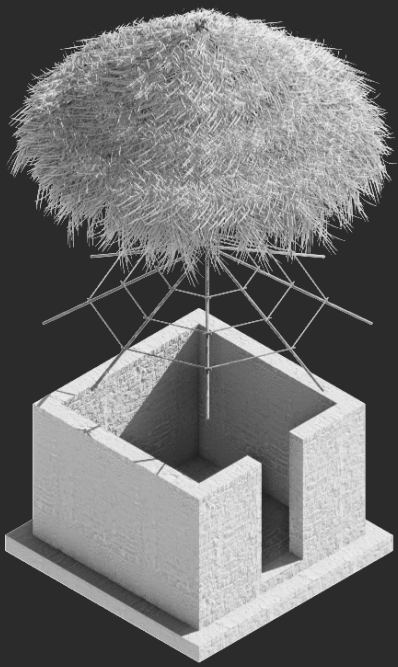
EXISTING TUKUL

LEARNING FROM LOCAL BUILDING

Vernacular architecture refers to an emergent building which over a long period of time is refined and molded by the daily practices and climate of a place and culture. The tukul embodies this idea. This home typology is a traditional dwelling found in Northern Uganda, South Sudan, and nearby regions. The tukul is square or round with a distinctive steep, thatched roof. Our work aims to study, celebrate, and enhance the tukul while preserving its cultural significance.

The tukul's construction is guided by simplicity, durability and survivability. Locally available materials like wooden poles, sun-dried mud bricks, and native grasses form the basic components. Its design is deliberate: the base, or plinth, is elevated to prevent flooding; walls, made from mud bricks, are plastered to form a monolithic appearance with crenels for air passage; the steeply pitched thatch roof assists in temperature regulation and prevents rainwater from seeping in. Tukuls are not just homes, but also places of communal activities, reflecting the community's life. The decoration of the tukul showcases the cultural richness of local inhabitants.

Tukuls represent a low environmental impact approach to housing, contributing to their popularity in discussions about sustainable and eco-friendly homes. The work of this research document seeks to build upon this by addressing local resource scarcity issues, using insights from inhabitants to enhance the shelter's quality while retaining its cultural essence. The project aims to align with the local Shelter Depot program, exploring ways its inventory and training can be used to augment tukul's qualities. Overall, tukuls exemplify the fusion of architectural ingenuity, cultural richness, and environmental adaptation in African communities.



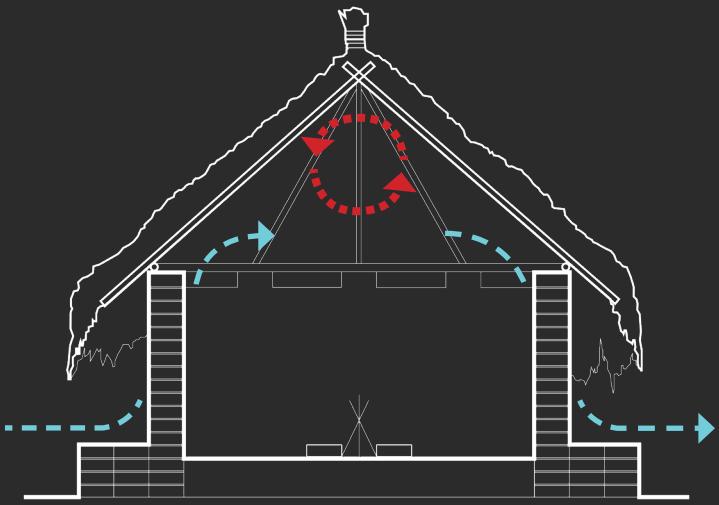
Thatch Roof made of
Native Grasses

Wood Structural
Members (Small Diameter)

Rope Connections

Mud Brick with
Mud Finish

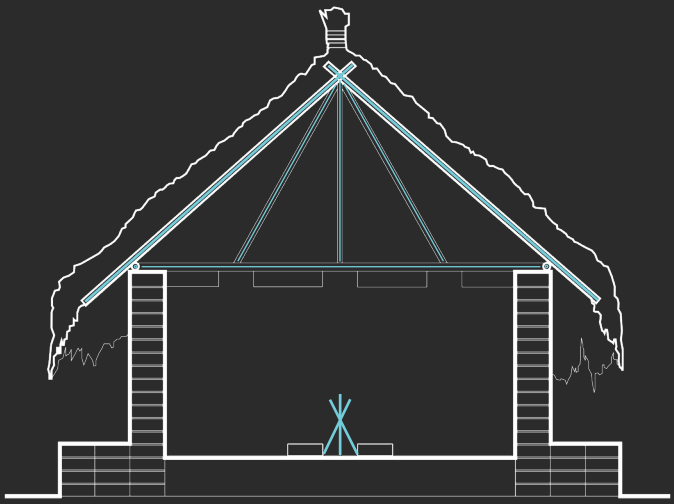
Mud Brick + Dirt Plinth



NATIVE GRASSES

ROOF SURFACE

The roof of the tukul, crafted from native grasses, showcases the strong bond between communities and their environment. The thatched roof, tightly woven and layered, provides reliable protection from the elements while blending harmoniously with the natural landscape. The use of native grasses also ensures excellent insulation, creating a comfortable living space in various weather conditions. The steep roof also allows hot air to rise above the occupant, and the openings between the walls and roof allow cool air to flow through the space. By selecting and skillfully weaving the native grasses, the tukul's roof not only provides essential protection, but also serves as a harmonious extension of the surrounding natural landscape.



WOOD

ROOF STRUCTURE + HEARTH

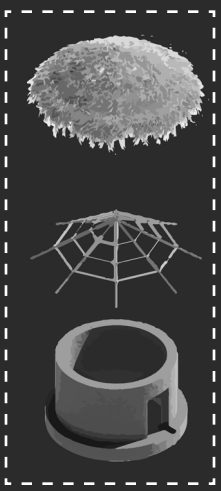
The tukul's roof structure ingeniously utilizes small wood members, showcasing the resourcefulness and practicality of the communities. These carefully chosen elements provide a sturdy framework, supporting the thatched roof while allowing flexibility in construction. Additionally, wood plays a vital role as a fuel source for the hearth, serving as the central gathering place for cooking and warmth within the tukul. Every Shelter acknowledges the importance of sustainable wood practices and works towards a balance between wood utilization and environmental conservation.

MUD BRICKS

WALLS & PLINTH

These mud bricks are formed on-site from easily crafted wooden molds, using the soil surrounding the location of the shelter itself. The mud brick walls and plinth of the tukul reflect the communities' deep connection to the local environment. These walls offer strength, insulation, and protection. The elevated plinth safeguards against dampness and insects, as well as works in conjunction with the overhanging grass roof to keep the rain out of the shelter. These mud brick structures embody cultural heritage and sustainable building practices. Every Shelter celebrates this legacy, empowering refugees to reclaim their identity and find a true sense of home.

Note: a common variant of the tukul can be seen throughout Bidi Bidi where the primary walls are circular rather than square.



The plinth is also often used as a exterior bench for work and leisure.


LISTEN & EXAMINE

TUKUL OVER TIME

IMPETUS FOR RESEARCH

The tukul, through its clever use of low-tech construction solutions has become the most ubiquitous housing type in all of rural Uganda and the surrounding countries. However, this remarkable design still has room for improvements.

Material Scarcity:
Most tukuls use native grasses which grow in season, often leading to illegal harvesting of grass on lands not belonging to the settlement. Northwestern Uganda has also experienced significant deforestation thereby rendering quality wood, used for many communal and household applications, in short supply. The material scarcity in Bidi Bidi has fueled local tensions, leading to distressing conflicts between refugees and host country citizens. The scarcity of building resources not only creates socio-political strife but also exposes structural limitations within the current architectural model. Building with sustainably-harvested materials which have longer duration lifespans is of critical importance.

Health Improvements:
While the local community has not explicitly articulated a need for flooring, research clearly indicates that the installation of a floor in shelters can dramatically reduce the risk of disease transmission improving overall health. Termites and other unwelcome critters often degrade the building quality, including the roof and beam structure, leading to moisture problems affecting respiratory health for children and vulnerable elderly adults.

The tukul's inherent design brilliance is counterbalanced by real-world challenges that necessitate thoughtful architectural evolution. Through a combined approach of community input and expert insight, as seen in the Shelter Depot model, these issues can be addressed. This hybrid model offers a pathway toward a more harmonious and healthy living environment, leveraging the merits of the traditional tukul while addressing its limitations to create a more sustainable future.

SURVEY

This survey was conducted in June 2023 administered to customers of the Every Shelter hardware store - “Shelter Depot”. Customers were asked to fill out a form that includes specifying their compliments and critiques of their tukul shelter. They were also asked to suggest alternatives or modifications to the current standard practices. Though few surveyed individuals offered alternatives, all offered valuable insights into the difficulties and benefits of the vernacular tukul.

Mission of Research

Identify the key benefits and difficulties of the tukul refugee shelter, honor the benefits while offering alternatives that would aid the difficulties.

REFUGEE + NATIONAL SURVEY

PARTICIPANTS

85

~90% of monthly customers at the Bidi Bidi store

COMPLIMENTS

fifty-two

% of people reported leaks during rainy season

78

% of customers are dealing with termites

CRITIQUES

construction delays (15)

too cold (11)

poor materials (19)

maintenance (13)

100%

of people believed grass + wood are too expensive

Average age of surveyed people

36 years

RESILIENCE

During the creation of this report, our team in Uganda witnessed a severe storm that swept through Bidi Bidi, causing significant damage to the tukul homes. The storm highlighted a critical vulnerability: when the mud bricks that form these dwellings are soaked by heavy rains, they begin to disintegrate, ultimately leading to the structure's collapse.

This unfortunate situation underscores the limitations of using readily available but inferior building materials. Nevertheless, we are confident that our material research for the upgraded "tukul 2.0" will lead to structures more resilient to such extreme weather conditions, providing a safer and more durable home for the refugee community.

GOALS

IN RESPONSE TO THE SURVEY

+ Maintain affordability, thermal efficiency, and ease of construction of the tukul.

+ Offer material alternatives that would create a more diversified economy for products, in turn bolstering local supply chains and increasing accessibility, as well as reduce material scarcities.

+ Increase the quality of construction materials by finding local partners.

+ Minimize the plight of termites.

+ Offer materials that are long-lasting, insect resistant, and high-quality to reduce maintenance.


SHELTER
DEPOT

SPECULATE & COLLABORATE

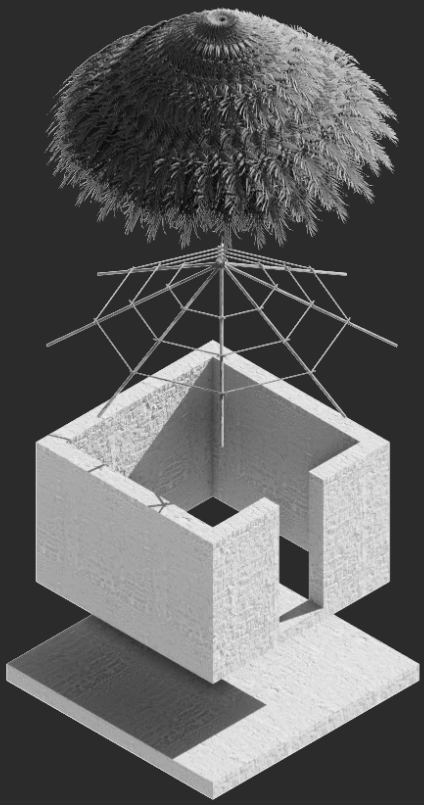
TUKUL 2.0

CONSTRUCTION THROUGH LOCAL ECONOMY

The tukul stands as a testament to human ingenuity and cultural heritage. It embodies the genius of utilizing local resources to create resilient homes. However, the challenges of material scarcity and ongoing maintenance cannot be overlooked. Every Shelter recognizes these difficulties and seeks to establish connections with local producers to not only aid displaced peoples but also bolster local economies towards collective flourishing. Every Shelter proposes a series of local alternatives to combat the various deficiencies of the tukul:

+ Woven palm frond roof.
+ Bamboo structural members.
+ Sisal Connections
+ Interlocking stabilized blocks for the walls and plinth.
+ Up-cycled vinyl flooring solution.

Each one of these wonderful construction technologies is being actively implemented in Uganda right now. Every Shelter seeks to connect the organizations implementing these solutions, thereby enhancing existing supply chains instead of reinforcing a “non-local” approach. When this happens, the Shelter Depot hardware store becomes a critical resource. Through these partnerships, Every Shelter with Shelter Depot, provides access to high-quality materials to the customers who need and want them.



Magic Palm Roof

Bamboo Structural Members

Sisal Connections

ISSB Walls

ISSB Plinth +
Bashe Bora Flooring

PALM FROND

BAMBOO

CACTUS

ISSB

FLOORING

PALM FROND

ROOF SURFACE

While the traditional tukul embodies ingenuity and cultural heritage, it is important to acknowledge the challenges associated with its maintenance and material scarcity. The nature of the construction materials requires regular upkeep and repair, which can be demanding for the inhabitants. Furthermore, the availability of certain materials, such as thatch grass for the roof, may be limited, necessitating alternative solutions.

In response to these challenges, innovative approaches are essential to ensure the longevity and accessibility of tukul construction. One such suggestion is to consider woven palm fronds as an alternative roof surface. This adaptation pays homage to the original concept of utilizing local resources while offering a practical solution to the scarcity of thatch grass. Woven palm fronds present a viable and sustainable option, providing strength, and durability.

By embracing new construction methods and materials, while still honoring the essence of the tukul, Every Shelter can address the maintenance and scarcity concerns associated with the traditional design. This willingness to explore alternatives reflects the organization's commitment to adapting and evolving, ensuring that the tukul remains a viable and accessible shelter solution for displaced individuals.

BAMBOO

ROOF STRUCTURE + HEARTH

In serving the refugee and host communities of Bidi Bidi, Uganda, Every Shelter recognizes the immense value of bamboo as a sustainable and versatile alternative to traditional wooden structural members in the tukul. This innovative approach brings numerous benefits to those living in the settlement.

By utilizing bamboo, a material known for its strength and rapid growth, Every Shelter ensures the durability and resilience of the tukul while reducing the strain on limited wood resources. This shift towards bamboo construction not only promotes sustainable practices but also empowers refugees and host nationals with a reliable and long-lasting shelter solution.

Furthermore, the introduction of bamboo briquettes for the hearth brings sustainable heat and food production to the forefront. These compacted blocks of bamboo offer efficient combustion, reducing the need for firewood and minimizing smoke emissions. The utilization of bamboo briquettes addresses environmental concerns, enhances indoor air quality, and provides a more sustainable energy source for cooking and warmth within the tukul.

Through these innovative adaptations, Every Shelter strives to improve the lives of both refugees and host nationals in Bidi Bidi. By embracing bamboo as a substitute for wooden structural members and incorporating bamboo briquettes in the hearth, the organization promotes sustainable practices, fosters self-sufficiency, and empowers communities to create resilient and environmentally conscious homes.

SISAL ROPES

BINDING CONNECTIONS

By prioritizing the service of refugees, the introduction of sisal ropes in the tukul brings alternative benefits to their shelters. The natural strength and durability of sisal ropes ensure secure binding and structural integrity, reducing the need for frequent replacements. This approach emphasizes resource efficiency and cost-savings. Sisal, derived from the agave sisalana plant, requires minimal water and resources to grow, aligning with a sustainable ethos. The integration of sisal ropes demonstrates a commitment to practical and eco-sensitive shelter solutions, empowering refugee communities with resilient homes.

For instruction on how to turn Agave cactus into durable rope please reference p. 340 in *The Barefoot Architect: A Handbook for Green Building*, by John van Lengen

STABLIZED BLOCKS (ISSB)

WALLS + PLINTH

In the pursuit of durable and sustainable shelter solutions, Every Shelter has recognized the potential of Interlocking Stabilized Soil Blocks (ISSBs) as a transformative alternative to traditional mud bricks in the construction of the tukul. ISSBs, with their enhanced strength and stability, offer a viable and eco-friendly solution. This innovative shift not only ensures the structural integrity of the tukul but also reduces the need for continuous maintenance and repair.

Moreover, ISSBs present a solution for the construction of the tukul's walls and plinth. These blocks, made from locally available soil mixed with a small amount of stabilizer, offer enhanced durability and longevity. The utilization of ISSBs not only reduces the dependence on external materials but also addresses the environmental concerns associated with sourcing and transporting construction materials.

By embracing ISSBs as a replacement for mud bricks, Every Shelter demonstrates its commitment to sustainable practices and innovation. These adaptations not only reduce the reliance on finite resources but also contribute to the long-term viability and environmental resilience of the tukul, allowing for a more sustainable and efficient use of materials for the benefit of displaced communities.

BASHE BORA

FLOORING

Every Shelter is dedicated to enhancing the quality of life for both refugee and local populations in Bidi Bidi, Uganda. A significant part of our initiative is the introduction of a finished flooring solution within the traditional tukul homes. This advancement is set to deliver a host of advantages, including heightened hygiene standards, a decrease in disease transmission, and an overall boost in the comfort levels for inhabitants.

Every Shelter recommends employing Bashe Bora flooring, an innovative material crafted from up-cycled billboard tarps. This product can be easily installed to create a sturdy and long-lasting barrier over the earthen floor, fostering a more secure living environment.

Bashe Bora, which translates to “New Tarp” in Swahili, is a robust vinyl flooring system designed to endure for many years in the demanding conditions of Bidi Bidi. Its durability is crucial for reducing illnesses commonly spread through unsealed earthen floors by preventing insect infestations and thus enhancing the residents’ comfort. Additionally, its recycled composition not only contributes to sustainability but also ensures affordability, making a significant positive impact on the quality of shelter for the community.

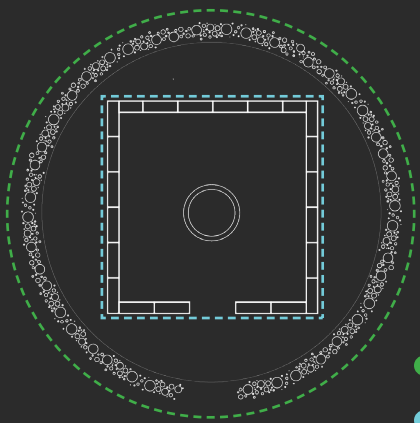
TERMITE CONTROL

VETIVER GRASSES

With its dense, deeply penetrating root system, vetiver grasses can act as a natural barrier against termites, deterring them from infiltrating the tukul shelters. When planted strategically around the structures, the grass forms a subterranean wall that termites are reluctant to cross due to compounds in the plant that they find unappealing. This environmentally friendly solution not only helps protect the tukul homes from termite damage, but it also promotes soil conservation and water management, further benefiting the overall living conditions in the refugee settlement.

BORATES

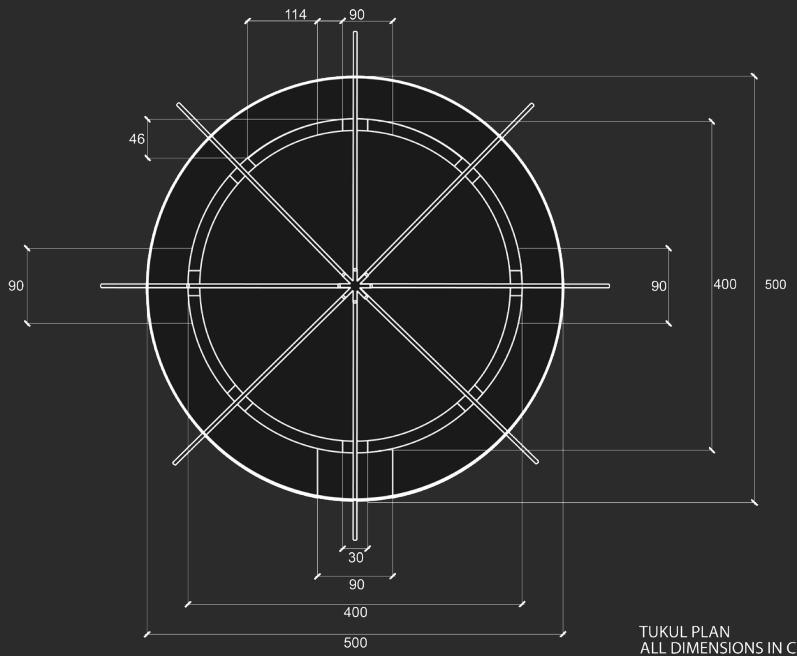
Derived from the natural mineral boron, borates can provide an effective defense against termites invading the tukul refugee shelters. By treating the wood or bamboo elements and mud bricks or ISSBs of the tukul with a borate solution, the structure becomes less attractive as a food source for termites. The borates interfere with the termites' metabolism, causing their death and thus preventing infestation. This method of termite prevention, while requiring careful handling due to the toxicity of borates, can be a significant tool in protecting the tukul homes from termite damage.



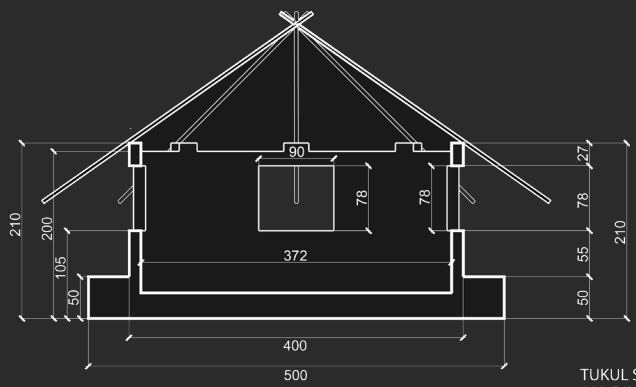
Plan Diagram of Tukul

TUKUL 2.0

CONSTRUCTION DOCUMENTS



TUKUL PLAN
ALL DIMENSIONS IN CM



TUKUL SECTION
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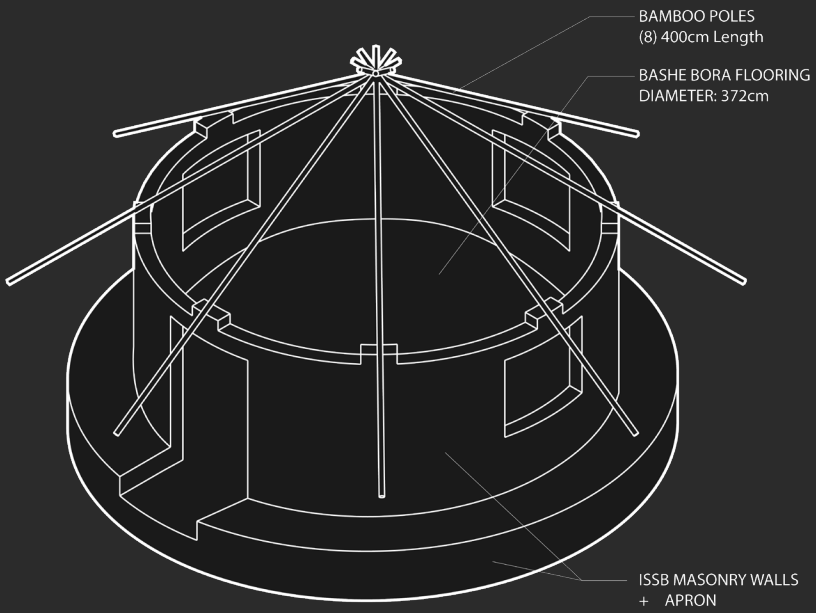


TUKUL ISOMETRIC

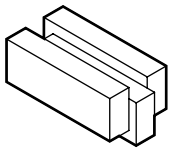
NEXT STEPS & CONCLUSION

FUTURE EXPERIMENTATION

STABILIZED SOIL BLOCKS

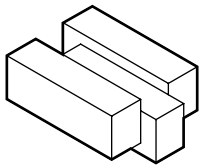
We believe there is a great untapped resource for the next generation of tukul innovation and production. That utilizes the interlocking stabilized soil block and its block compressing machine. Currently there are only three standard types of compressed earth blocks however any shape can be pressed out of these machines to create sustainable interlocking blocks.

STANDARD STABILIZED SOIL BLOCKS

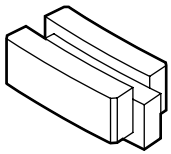


Standard Straight Interlocking Stabilized Soil Block.

Commonly used for infill between structural members.



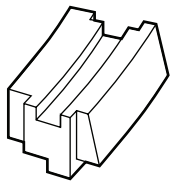
Wide Straight Interlocking Stabilized Soil Block.



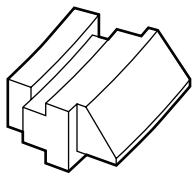
Standard Curved Interlocking Stabilized Soil Block.

Commonly used for cisterns and latrines.

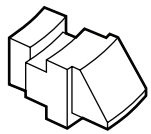
EVERY SHELTER STABILIZED SOIL BLOCKS



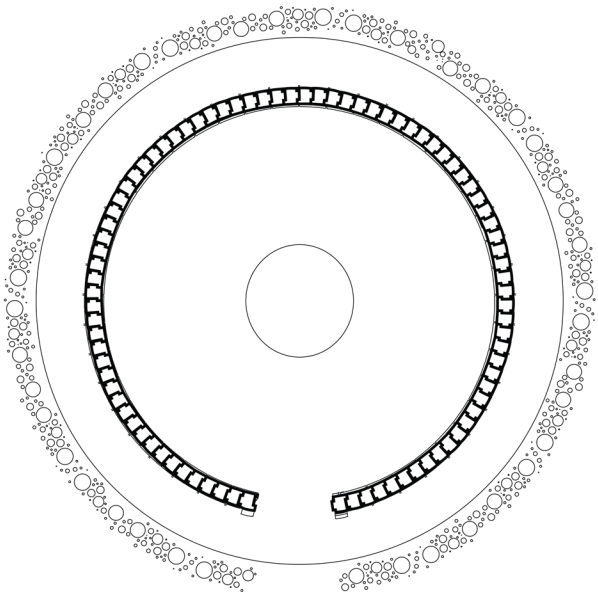
Curved Interlocking Stabilized Soil Block With Tapered Exterior Face



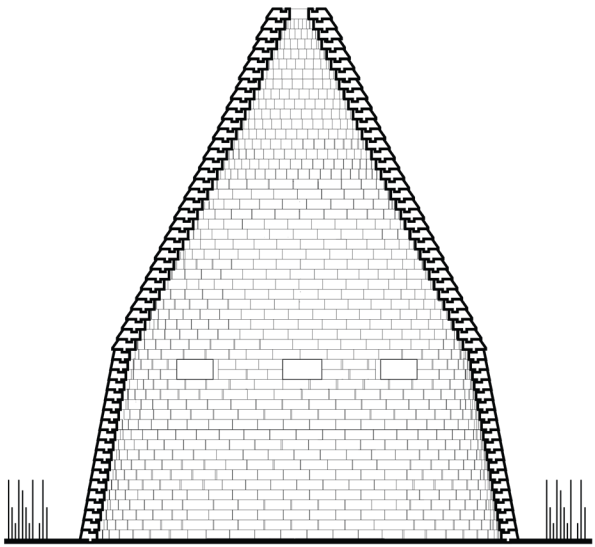
Curved Interlocking Stabilized Soil Block With Sloped Exterior Face



Curved Interlocking Stabilized Soil Half-Block With Sloped Exterior Face



Shelter Plan



Shelter Section

STABILIZED SOIL BLOCKS

Employing just three types of blocks, coupled with a precise stacking technique this design presents an alternative to the vernacular tukul while seeking to learn from its climate efficiencies. Like the tukul, the structure has a steep roof, tailored for optimal thermal and climatic performance. This experiment, however, aims to deviate from the dependency on a variety of materials that is typical in conventional tukul construction.

An approach explored here seeks to form a complete shelter out of one material. Theoretically, an Interlocking Stabilized Soil Block (ISSB) press could be rented from a nearby Shelter Depot. This press can then be transported to the construction site, where several structures are required. Once on site, the ISSB blocks can be pressed and left to cure. Upon curing, these blocks can then be used to erect the necessary structures.

This concept thus takes a step further in resource optimization, striving for efficiency and affordability while also allowing for local resource utilization and skill empowerment.

Illustration of Experimental Shelter

IN SUMMARY

Every Shelter is reshaping the refugee-aid ecosystem by championing the refugee's agency in building their own sense of home. We envision a sustainable, local, and responsive approach to refugee aid, pivoting from a top-down to a grassroots, bottom-up model. This new paradigm, crafted with dignity, resilience, and the local needs of displaced peoples at its core, reshapes the humanitarian narrative by placing the refugee at the center of their own story.

We critique the traditional design processes in humanitarian aid, which often exclude the refugee voice, resulting in sub-optimal, out-of-context solutions. Architects wouldn't design a house without client collaboration, yet refugee shelters are often designed without their input. Every Shelter challenges this norm, underscoring that the refugee's voice is essential for creating solutions that are contextual, sustainable, and respectful of local cultures and resources.

In this model, humanitarian design does not mean crafting silver bullet solutions in isolation, but instead focusing on local materials, climate, culture, and needs. Many solutions are often well-intentioned but detached, these organizations emphasize the necessity of locally available goods for manufacturing and construction, thus also stimulating local economies.

Central to this argument is Shelter Depot, an adaptive tool that recognizes the energy and resourcefulness of refugees in building their own shelters. Through this, it can provide locally-oriented goods and services to support refugees in their self-build efforts. This research document echoes this ethos by exploring the architectural ingenuity and cultural richness of vernacular refugee housing in Northern Uganda, specifically the "tukul". It recognizes the intrinsic value of this typology and looks to find alternatives for its improvement, not by imposing foreign solutions, but by locally-sourced, culturally respectful, and responsive design methods.

This reflects the essence of Every Shelter – every person, no matter their circumstances, has the right and the ability to create their own home.

Every Shelter Team

SUPPORT

TANGIBLE WAYS TO SUPPORT THE WORK OF EVERY SHELTER

$150,000

To establish the next Shelter Depot Hardware Store in another refugee encampment in order to bring resources to displaced people.

$75,000

To fully fund the update of digital infrastructure to all current hardware store locations in Uganda for long-term sustained development.

$1,000

To seed the development of material infrastructure and help end the conflict over needed resources.

$100

To create a work-for-credit opportunity so that a refugee can get what they desire.


SHELTER
DEPOT

ANNOTATIONS

Works Citied:

UNHCR Global Trends 2022, 14 June 2023

Zhang, Yu (2023). Sustainable Discrete Structures: From Design to Construction [Doctoral thesis, ETH].

Additional Resources and Inspiration:

The Barefoot Architect: A Handbook for Green Building
John van Lengen

The Wealth of Refugees: How Displaced People Can Build Economies
Alexander Betts

From Camp to City, Refugee Camps of the Western Sahara
ETH Studio Basel

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