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A Proposed School for Traditional Building Arts & Crafts in Kalongo, Uganda

Propuesta para una escuela de artes y oficios tradicionales de construcción en Kalongo, Uganda

Proposta de uma escola de artes e ofícios tradicionais de construção em Kalongo, Uganda

Abstract | Resumen | Resumo

Uganda is headed for exponential growth both in its population and in its building stock. The buildings of small Ugandan market communities such as Kalongo, a remote village in the north, reflect two distinct construction systems, as contemporary building practices have turned their back on tradition. Interventions by foreign NGOs in the area have contributed to the stigmatization of local building traditions as representing underdevelopment. This proposed design project for a *School for Traditional Building Arts & Crafts* in Kalongo seeks to bridge the disconnect between building traditions and the growing requirement for durable, sustainable buildings. The proposal sets out the concept of an innovative way of building through the elevation of local materials and traditions on a new scale.

Uganda se encamina a un crecimiento exponencial tanto de su población como de su parque inmobiliario. Los edificios de pequeñas comunidades comerciales ugandesas, como Kalongo, un pueblo remoto en el norte, reflejan dos sistemas de construcción distintos, ya que los contemporáneos no siguen la tradición local. Las intervenciones de ONG extranjeras en la zona han contribuido a estigmatizar las tradiciones constructivas locales, al señalarlas como representativas del subdesarrollo. Esta propuesta de proyecto para una Escuela de Artes y Oficios Tradicionales de la Construcción en Kalongo pretende tender puentes entre las tradiciones constructivas y la creciente necesidad de edificios duraderos y sostenibles. La propuesta plantea la idea de una forma de construir innovadora mediante el fomento de materiales y tradiciones locales a una nueva escala.

O Uganda está a caminhar para um crescimento exponencial tanto da sua população como do seu parque imobiliário. As edificações de pequenas comunidades mercantís ugandenses, como Kalongo, uma aldeia remota no norte, reflectem dois sistemas de construção distintos, uma vez que as práticas de construção contemporâneas viraram as costas à tradição. As intervenções de ONG estrangeiras na zona contribuíram para a estigmatização das tradições de construção locais como representação do subdesenvolvimento. Este projeto de design proposto para uma Escola de Artes e Ofícios de Construção Tradicional em Kalongo procura colmatar a falta de ligação entre as tradições de construção e a crescente necessidade de edifícios duradouros e sustentáveis. A proposta estabelece o conceito de uma forma inovadora de construir através da elevação dos materiais e tradições locais a um novo nível.

Introduction: Ugandan Context

Uganda, the "Pearl of Africa," is at the heart of Sub-Saharan Africa, north of Lake Victoria along the Equator (Fig. 1). Its tropical climate and temperate weather have promoted habitation for thousands of years. Precolonial Uganda was an array of centralized kingdoms concentrated in the south and of tribal clans dispersed through the north. Pastoral crop rotations and herding were the primary economic drivers of the north up to the mid-nineteenth century, when the southern kingdoms weaponized their technological progress and began enslaving the northern clansmen. The epicenter of British colonization was at Kampala in the south, where the British empire first assigned political power to the British East Africa Company in 1888. Following a series of concessions, the Company signed a treaty with the largest southern kingdom of Buganda, and in 1894 Uganda officially became a British protectorate.

Figure 1: Map of Uganda, graphite on vellum

Figure 2: Interior of Kasubi Tombs, Uganda (Responsible Tourism Company)

Figure 3: Entrance to Kasubi Tombs, Uganda (Summer Tour Travels)

Figure 4: Kasubi Tombs, Uganda (Responsible Tourism Company)

As the British colonizers consolidated their position in the early twentieth century, Uganda's cultural landscape saw its first hybridization with European traditions. This extended to the built environment, as Ugandan building tectonics shifted from traditional organic, semi-temporary "huts" of wood and thatch to more permanent European masonry. This transition is exemplified in the Kabaka's palace, seat of the king of Buganda. Built in 1882, the original palace was the pinnacle of this precolonial architecture (Figs. 2 and 3). With a diameter of just over 100 feet, the palace demonstrated the scale at which traditional materials could be applied (Fig. 4). Its wattle and daub walls supported a massive straw dome, with 52 palm rings representing Buganda's 52 clans. However, in 1922, a new masonry palace was built in of masonry and European aesthetic (Fig. 5). The old palace was repurposed as the Kasubi tombs, for the former Kabaka. Though British colonization in Uganda ended officially in 1962, Ugandan architecture was lastingly altered.

Today Uganda has a population of roughly 47 million people. As the world's second-youngest nation, with an average age of 16.7 years, Uganda faces a demographic explosion: by 2040 the population is expected to double, and its "permanent" building stock to grow by 38 percent. Such growth represents both a challenge and an opportunity. In architectural terms, housing a growing population will require rapid development in building trades to keep up with demand while utilizing

Figure 5: Kabaka's Palace, Kampala, Uganda (Shutterstock)

the limited available supply of modern construction materials. With regard to Uganda's traditional architectural and tectonic systems, the country has the opportunity both to reclaim its architectural heritage and to employ its traditions as a foundation for future development.

Background: Kalongo as a Case Study

I was introduced to architecture in Uganda in 2023 during my fourth year of study at the University of Notre Dame when a design studio led by Dr. John Odhiambo Onyango was asked to design an Early Childhood Development Center and to renovate a restaurant on the campus of St. Bakhita's Vocational Training Center in Kalongo. Our design was ultimately selected to receive funding and construction was completed in 2024. While working on the construction documents, I was fortunate enough to travel to Kalongo on several occasions to study the local construction systems and learn about how the Ugandan people relate to architecture.

Kalongo, in the northern Acholiland region, has undergone centuries of injustice. From the enslavement of its people in the mid-nineteenth century to decades of mass killings and ethnocide at the hands of Idi Amin and Joseph Kony in the late twentieth and early twenty-first centuries, the Acholi people have continued to suffer. Yet they maintain traditions and customs that celebrate their cultural heritage. Due to its history of unrest, Acholiland has developed more slowly than the rest of Uganda, resulting in a disparity in infrastructure. Paved roads are scarce and communities are largely organized in small market settlements at the crossroads of major traffic routes. Most notably, the development of "permanent" architecture has failed to reach most of Acholiland (Fig. 6), as I found when studying the architectural landscape of Kalongo, where only about 15 percent of homes have permanent walls.

In Kalongo one sees two distinct construction systems (Fig. 7). The first, the contemporary system, consists of single-wythe walls of fired bricks with copious lime-cement mortar to account for the weak and inconsistent firing of local bricks. Tin-sheet roofs are used and concrete lintels and ring beams are common. This system was introduced to the area by foreign NGOs and shows little respect for context, using Western construction methods and materials. Though such buildings are durable, the foreign materials are difficult to source and expensive. The other system is the traditional one, consisting of unfired adobe-block walls and thatch roofs, typically in hut format. This system surpasses the contemporary one in thermal performance, economy, and local sustainability, but lacks the durability required to be the sole means of housing Uganda's growing population. Additionally, the use of contemporary construction methods by foreign NGOs has stigmatized this traditional architecture, associating it with poverty and underdevelopment. As a result, people in Kalongo will say they would rather be uncomfortable in a contemporary building than comfortable in a traditional one.

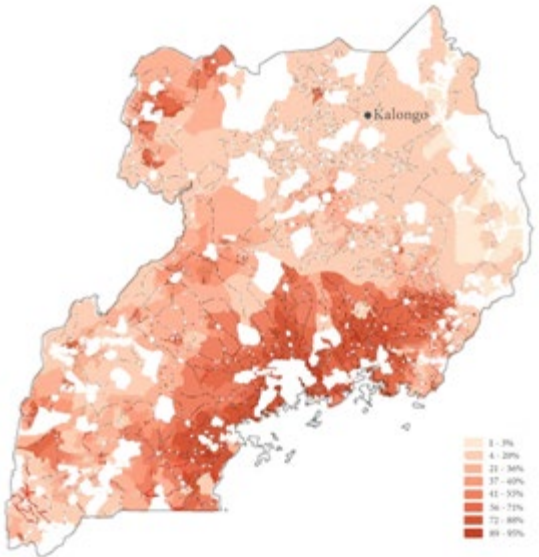

Figure 6: Percentage of households built with permanent walls (Uganda Country Report)

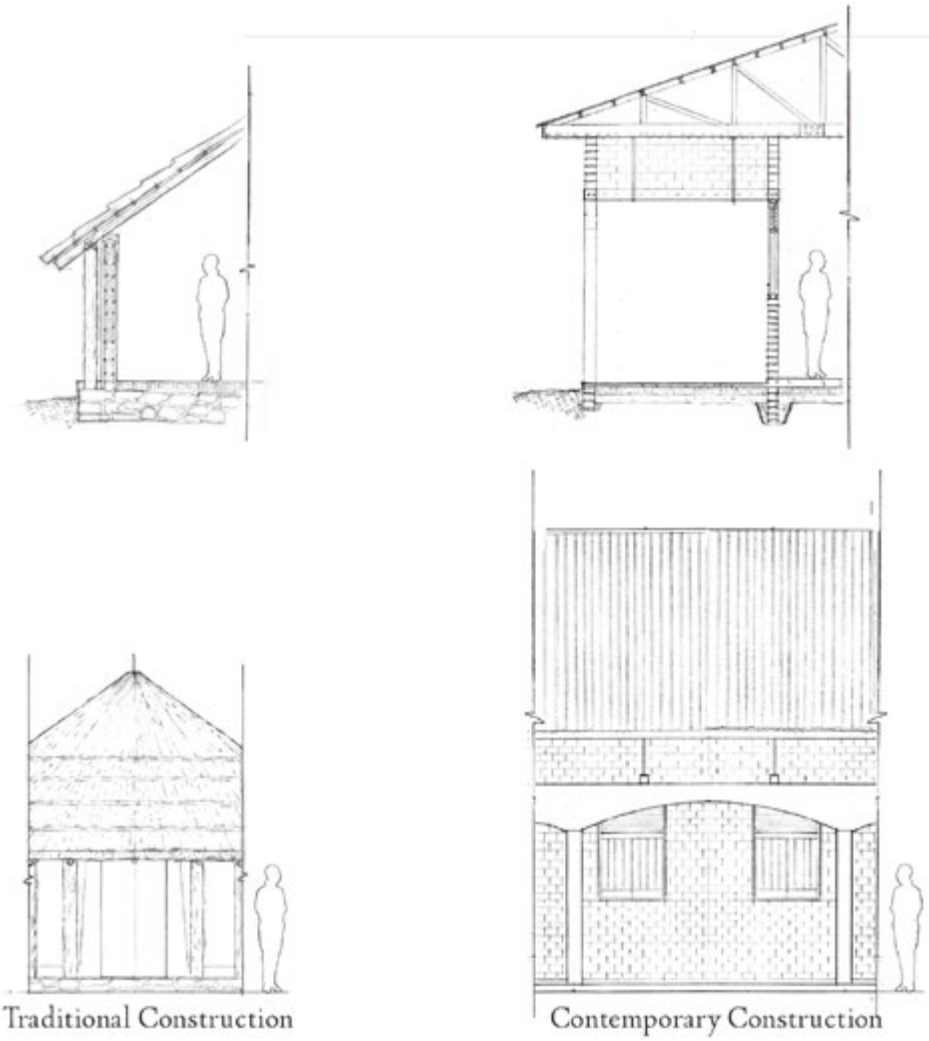

Figure 7: Construction with industrial vs. traditional materials

The disharmony between these two systems has given Kalongo a fractured townscape. Yet a hybrid system could be developed, reconciling the durability of contemporary construction with the sustainability and thermal properties of traditional buildings. Furthermore, a new style of construction embodying the region's rich traditions would allow the Acholi people to reclaim a sense of pride in their heritage, not as a relic of a lost past but as a resource for the future.

Design Solution: A Proposed School for Traditional Building Arts & Crafts

To respond to the above issues, this proposed design for a School of Traditional Building Arts & Crafts in Kalongo offers solutions on three scales—urban, architectural, and tectonic. In urban terms, the design creates a secure campus meeting the community's needs without being isolated from its context. Integrated into Kalongo, the school may be part of a continuous fabric while highlighting traditional construction in its more public-facing buildings (Fig. 10).

The Main Building [1], the Gallery [2], and the Ceremonial Hall [3] (Figs. 11 and 12) outwardly display traditional materials and aesthetics in an effort to counter the view of such materials as merely low-cost. The Ceremonial Hall in particular takes inspiration from the Kasubi Tombs in its form and use of materials, paying tribute, as the most formal building, to Uganda's architectural traditions. The three main buildings also organize the campus's processional axis, making them and their place in the built hierarchy visible, again celebrating the traditional style. The remaining campus buildings utilize a variety of more hybrid, contemporary methods, deemphasizing the contemporary system and allowing traditionally built structures to take precedence.

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Figure 8: Common contemporary construction practices in Kalongo

Figure 9: Traditional hut in Kalongo

In architectural terms, the design expresses the local building traditions and language, presenting existing construction materials in a newly developed system. The Main Building, with its rammed-earth walls, bamboo brackets, and large thatch roof, honors three locally available materials on a new scale and in adaptable form. The Gallery interior utilizes the same materials but in an open format, demonstrating the adaptability of local materials to different kinds of building. The Ceremonial Hall, with strict adherence to the traditional system in both form and tectonics, is also the campus's "object building." Its location and scale create a sense of reverence for architectural traditions that have otherwise been stigmatized and lost.

Finally, in tectonic terms, the design presents an evolution of building traditions and materials to new formats and scales. Focusing again on the Main Building, Gallery, and Ceremonial Hall, these axonometric construction drawings inspired by Carlo Formenti's *La Pratica del Fabbricare* (1908) dynamically express the proposed building process and the richness of local materials. Rubble stones are used for foundations, rammed earth (tamped by community members) constitutes the walls, fast-growing bamboo is used for framing, thereby preserving the area's limited timber forests, and the local tradition of thatched roofing is elevated to a new degree of formality. These three buildings are at the heart of the school's pedagogy and may be taken as references for learning. The project is intended to be a proof of concept for an innovative evolution of building traditions that may be the foundation of future building development in response to Uganda's impending population boom.

Figure 10: Street elevation, graphite on vellum

Figure 11: Processional section, graphite on vellum

Figure 12: Aerial perspective, graphite on vellum

Figure 13: Section through the entry court, graphite on vellum

Figure 14: Section through the great courtyard, graphite on vellum

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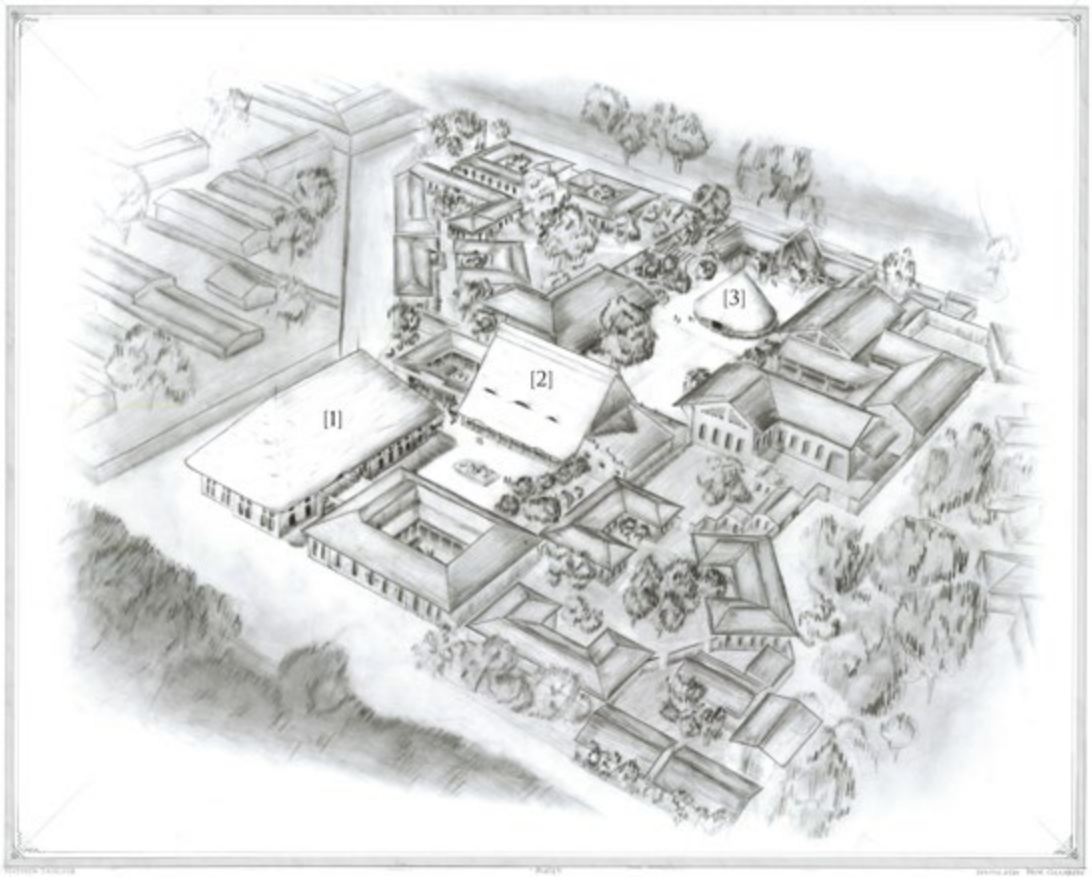

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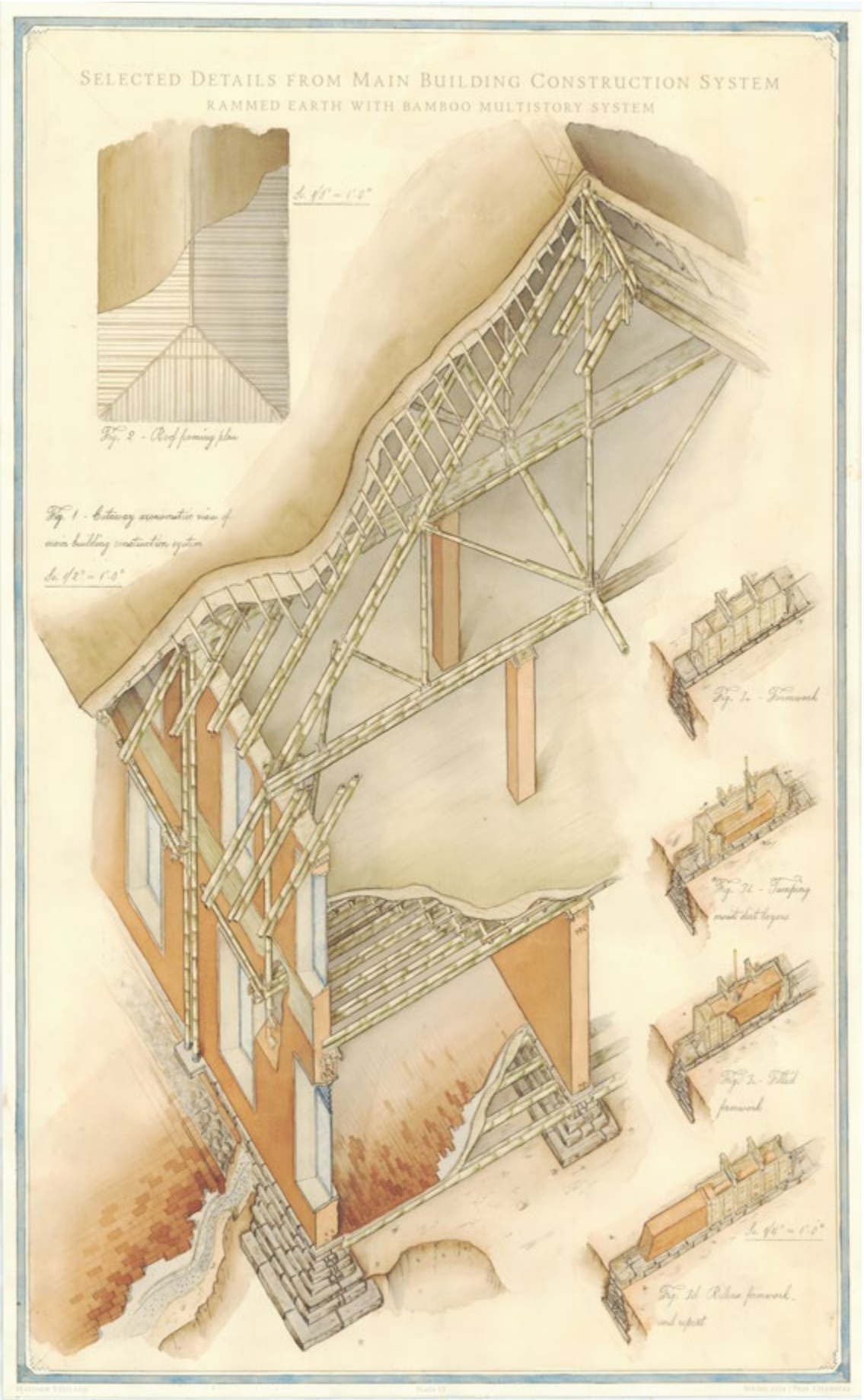

Figure 15: Main building construction details, watercolor on paper

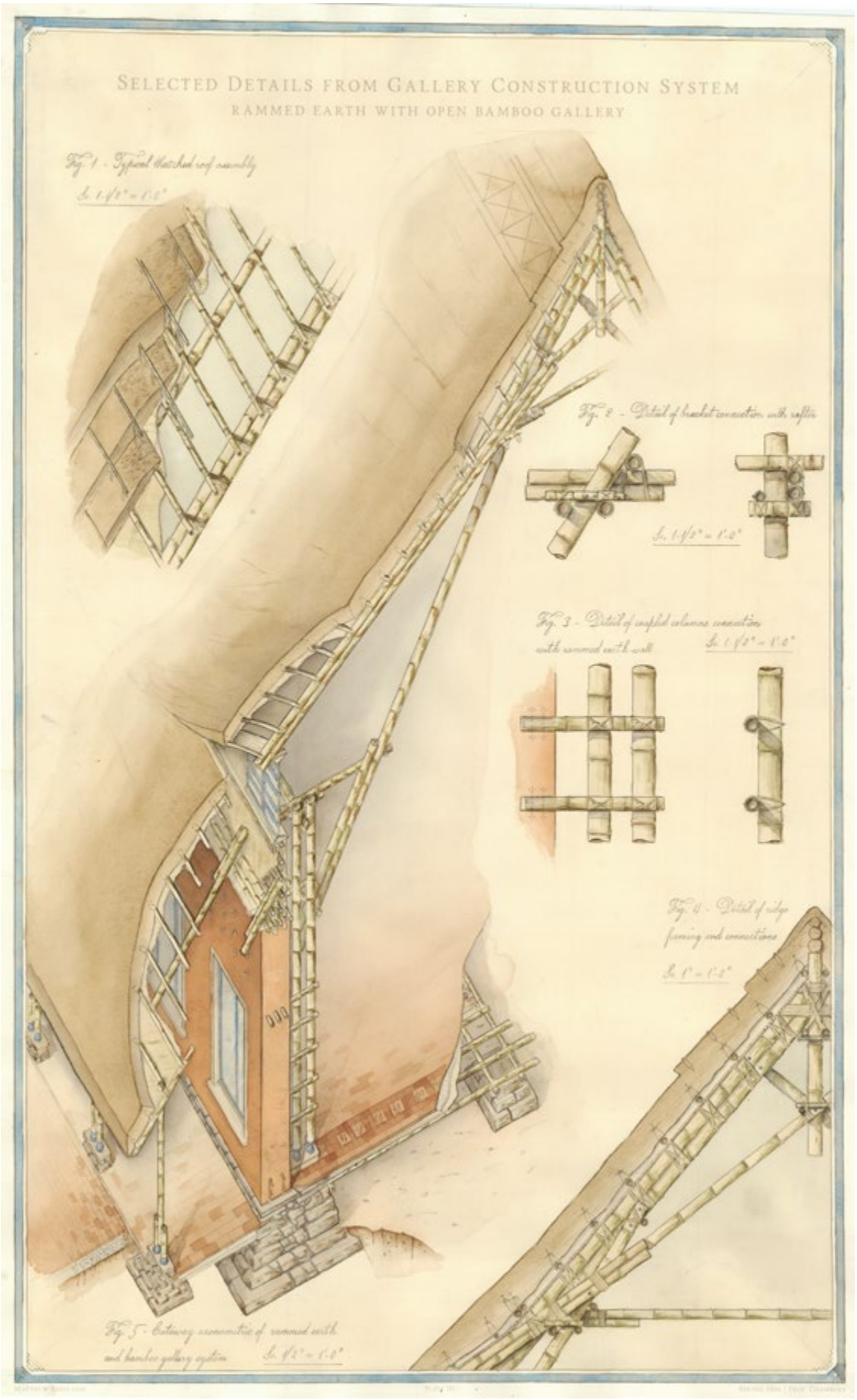

Figure 16: Gallery construction details, watercolor on paper

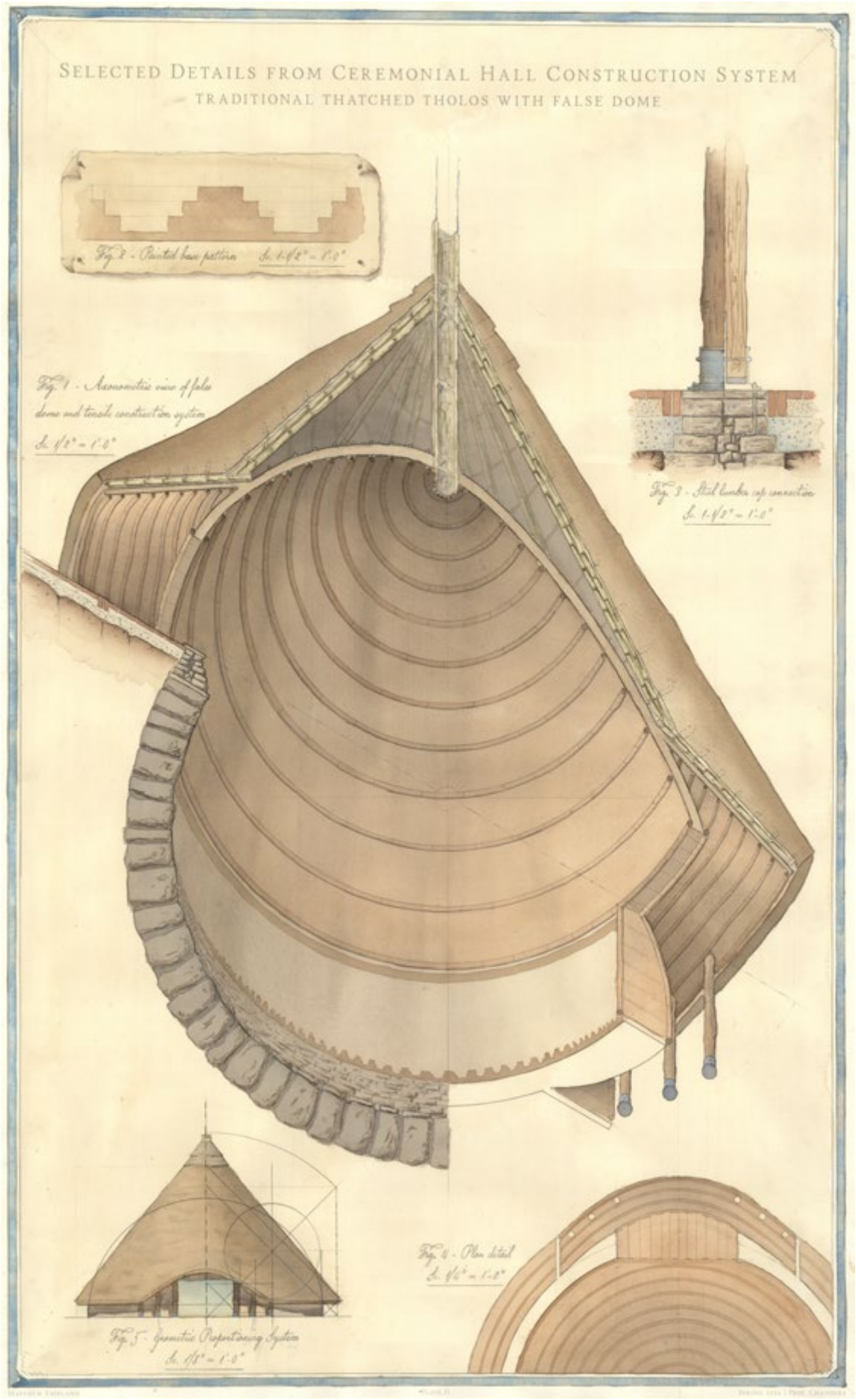

Figure 17: Ceremonial hall construction details, watercolor on paper

Relevance: A Blueprint for Future Development

Although the proposed school is complete in its formal development, the tectonics and concepts applied are meant to be just the first step in a broader journey of reclaiming architectural heritage in Kalongo. Over time, the school could teach and inspire the people of Kalongo as they continue to develop their vernacular style. As local craftsmen hone their skills, the future buildings of Kalongo may be erected with uniquely vernacular materials and aesthetics.

Additionally, as Uganda starts to preserve its heritage, there should be a focus on the preservation of precolonial architecture. This in turn implies a focus on formal teaching of traditional building crafts, something that is currently lacking. The Kasubi Tombs—an exemplar of precolonial architecture in Uganda—burned down after a suspected arson attack in 2011 (Fig. 18). As this is a UNESCO World Heritage site, there was a major rebuilding effort, but it was determined that there was insufficient traditional building knowledge to rebuild the tombs precisely as they were. Instead, they were rebuilt of synthetic materials, concrete blocks with lime cement, and rafters of dimensional lumber, then blanketed with the traditional thatch. This anecdote exemplifies the broader issue of a lack of a knowledge of traditional building which might serve to preserve the few precolonial buildings that remain. There should therefore be an effort to relearn these lost skills in order to preserve Ugandan heritage.

Finally, although this project is specifically for Kalongo, its lessons may be extrapolated to other Ugandan regions and communities. With both global temperatures and populations continuing to rise, the role of architecture in any sustainable future cannot be overstated. So a deeper understanding of traditional architecture and tectonics and their inherent contextual sustainability may provide an alternative to the technology-dependent innovations of today. Ultimately it will be the appreciation and evolution of traditional building practice that pave a sustainable path for architecture in Uganda and worldwide.

Figure 18: Kasubi tombs building being rebuilt after burning down (Alamy)

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Biography | Biografía | Biografia

Matthew Espeland

Matthew is a graduate of the University of Notre Dame, where he earned a Bachelor of Architecture (B.Arch) degree with honors in 2024. Alongside his major, Matthew did minors in Italian Studies and Sustainability, reflecting a broad academic interest and a commitment to integrating cultural and environmental considerations into his work. Currently Matthew works at a prominent Chicago-based residential architecture firm specialized in the application of traditional design and detailing to modern homes. Matthew's role at the firm allows him also to pursue his academic interests in environmental responsibility paired with aesthetic appeal.