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I, Timothy D Shouder, hereby submit this original work as part of the requirements for the degree of Master of Architecture in Architecture (Master of).

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Tectonic Shift: Interpreting the Emerging Cultural Identity of Uganda

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UNIVERSITY OF CINCINNATI
Tectonic Shift
Interpreting the Emerging Cultural Identity of Uganda

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might be the most severed relationship between built form and youth population. The academic environment also offers a direct relationship between tectonic, pedagogy, and youth that might begin to craft an architectural strategy which interprets the cultural identity of Uganda’s younger generation. This strategy may then be adapted towards a building methodology in which NGOs might fashion culturally inspired architecture that begin to interpret the cultural identity of Uganda.

00.1 Abstract

Foreign aid in developing countries has contributed positively in countless ways, however there have also been hidden consequences from aid provided by non-government (NGO) and not-for-profit organizations (NPO). Among these consequences, the cultural identity of Uganda as it is expressed architecturally has been shrouded by the very groups trying to help them. Though these organizations provide tremendous aid and support, within the construction sector they have typically applied the same blanketed approach to building regardless of program or context. This has caused missed opportunities for the communities receiving aid to express themselves through built form as they historically have. Uganda has reached a point in its development where NGOs should begin to move from ‘aid oriented’ to ‘partner oriented’ relationships.

This thesis seeks to establish a new design methodology applicable to foreign aid projects that might better interpret the cultural identity of Uganda through tectonics, temporality, and craft. These strategies reside within the premise that NGOs will not shift towards ‘partner oriented’ relationships immediately. It addresses the institutional colonial forms of building that are now accepted as part of the national identity, as well as the approaches that seek to uncover the pre-colonial past to create a method that is more in keeping with the new African identity. Contextually, the research is manifested within an educational program which, today in Uganda,
My interest in East Africa first took root when I participated in a building design competition through the Open Architecture Network and Architecture for Humanity during my architectural undergraduate studies in 2007. That competition was the first opportunity I had to design work that could impact lives. I had always had the understanding that only a physical, tangible good or service, such as providing construction aid, food, water, or medical aid could have any sort of impact on people. Even after graduation that type of tangible aid was exactly what I helped provide when I went on my first trips in a “serving” capacity twice to Honduras and once to France. Yet, those trips instilled a question in me of how could I provide aid as a designer, and contribute in something that uses my education to assist in the advancement of others beyond just physical or tangible services. This question was the beginning of my search for how I could help using my design talents.

This search led me to eMi (Engineering Ministries International) in Uganda. My interest in Uganda and its youth is derived from the direct exposure I had while living and working in Kampala, the capital city of Uganda for six months in 2011. This experience and the lessons I learned and witnessed changed me in a very profound way. I had been on those other trips in a “serving” capacity but had not been impacted in the same way. I determined during my time in Kampala before I had even been accepted to a graduate school that my thesis was going to be related to the youth of Uganda. I was intrigued by a project I had worked closely on where something very different from a typical NGO project was proposed. Uniquely, the inspiration of this project was deeply rooted in the identity of the youth it was built to serve. Even after completion of my part in the project, I still desired to expand upon the intents, assumptions, and developments as well as the cultural implications it might have. This thesis is the proliferation of that desire.
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1 Part:
Conceptual Strategies
In the past 20 years, Uganda has progressed from a failed state to a steadily growing economy. But much of Uganda’s vast youth population hasn’t seen the benefits of the country’s economic growth. With the north of the country slowly recovering from conflict, Uganda is - more than ever - a country in transition. As home to the world’s second youngest population (as of 2010), we know that young people in Uganda can and should play a leading role in this development process.¹

According to the 2012 State of Uganda Population Report, Uganda currently has the youngest population in the world. 78% of Ugandans are below 30 years old, 52% are below 15 years old, and the 6.5 million Ugandans that in fall into the age group of 18-30 years - which constitute 21.3% - of the population is expected to grow to 7.7 million by 2015.² Alongside this staggering statistic is the fact that the country is also in a period of significant economic development. With economic development comes urbanization and Uganda is in a period of urbanization. Currently the urban population growth rate is 4.8%. This is substantial growth when you compare this to the U.S. at 1.2% or Europe at 0.6%. According to a report prepared by

Urbanization Knowledge Partnership (a global think tank on urbanization and urbanization policies), that number might be even higher as international precedent shows that urbanization proceeds slowly at the initial stages of economic development and accelerates during the medium income classification. According to this trend, “Uganda’s urban deluge is yet to come”. [3]

This young generation is the first to grow up and live in a peaceful modern Uganda for the majority of their lives. Uganda is seeing its most stable and peaceful period of development presently than it has in the past forty years when it first gained independence from British rule in 1962. Between then and now Uganda has been through multiple regimes and militant rule; including the expulsion and genocide of Asian people groups under Idi Amin in 1972, the Uganda-Tanzania War from 1978-1979, the Bush War from 1981-1986, and an ongoing war with the Lords Resistance Army (LRA), a conflict which has only recently been pushed past the country’s borders. [4] Needless to say Uganda has seen its fair share of war and bloodshed in the past forty years and is now, for the first time since British independence, witnessing stability and peace.

There is still tension between many tribal kingdoms within Uganda. Tribal culture endured through the colonization period and to date there are 19 major tribes spread across Uganda. The colonization did not help relations between tribes. Due to its size, geographic location, and militant threat, and after several years of militant rule the British signed a treaty with the Buganda kingdom. The treaty proved very beneficial to the Buganda kingdom in establishing a dominance over the other tribes. In the following years subsequent treaties were formed between the British and other tribes such as the Toro, Ankole, and Bunyoro, but none proved as beneficial as the initial treaty with Buganda. [5] Buganda has remained a dominant force today and are still the largest people group in Uganda representing 17% of the country’s population. In fact it is from Buganda that Uganda gets its name sake. Most tribes of Uganda fall into 4 general people groups; the Bantu who are spread across a significant portion of Uganda’s southern and south-western regions and include the more dominant larger tribes like the Baganda, Banyankole, and Basoga; the Nilotes, who reside in the central and north-central regions and include the Acholi and Lango tribes; the Nilo-Hamites, concentrated in eastern Uganda and include the Karimogong and Iteso; and the Sudanic who are located in the north-western region and account for the Lugbara, and Kakwa. [6]
Each of these groups is culturally quite different from the next. To count them all alike from a foreigners perspective might be a common but considerable oversight. Civil wars and changes in power have only contributed to the already existing tension between these groups. Yoweri Museveni, a Banyankole, who first seized power in 1986 with the majority support of the Bantu, still remains a source of conflict for other tribes like the Acholi. To this point, Ugandan government power has only shifted control under militant force. This next generation might be the first to witness a change in power through the first peaceful election.

Unity of the Ugandan people falls on the shoulders of this young generation. They are the first to grow in a relatively peaceful and stable Uganda and have the opportunity to resolve tensions between tribes and unite the country for the first time. This generation is bountiful in energy and potential, inherent in youth; they make up over half of Uganda’s population and will soon represent a new identity for Uganda. From a foreign perspective ‘Unity’ might be interpreted as the core identity of this young generation. Yet ultimately, their identity remains their own to craft for themselves.
Both government and non-government organizations provide a tremendous amount of support for developing countries such as Uganda, but it must be done with thorough consideration of the depth of its impact. When the wake of aid is not considered there are often unintended results that can have negative impacts. One specific example of how aid undermined development and did harm through a temporary relief effort was through a response to a malaria outbreak. Efforts from local mosquito net makers were not sufficient to keep up with the need, so “(e)nter vociferous Hollywood movie star who rallies the masses, and goads Western governments to collect and send 100,000 mosquito nets to the region, at a cost of a million dollars.”[1] The “bleeding” is stopped and the immediate need quenched, however now the mosquito net-maker is out of business and their employees can no longer support their families. And when the nets are torn and worn out in a few years, who will replace them?[2]

The same could be said for many architectural and building efforts. Perhaps the immediate need is pacified for communities requiring schools, clinics, trauma relief centers, etc. but when the buildings have been built

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1 Dambisa Moyo, *Dead Aid: Why Aid is not Working and How There is Another Way for Africa.* (London: Allen Lane, 2009)
apart from community involvement there can be hidden negative aspects; such as feelings of paternalism or lack of self-worth towards community members in addition to the obvious concerns of maintaining the structure when the builders have left. Many organizations understand this and have adapted a building process that incorporates the community into the building process, effectively teaching men and women beneficial building trades and confirming their self-worth. Through various humanitarian design publications documenting “successful” built projects constructed in this manner, the design field has essentially self-affirmed the appropriateness of this strategy.

There is a flaw in this methodology however, that is particularly clear by surveying western built projects throughout the region; the buildings are generally uniform, and in some cases identical regardless of program, cultural region or influence. This could be due a lack of community involvement in both the design process and construction strategies. Decisions left to the actual end users of the buildings are limited at best. This occurrence could be considered yet another form of imperialism as the opportunity for cultural identity to be expressed through built form is lacking in these types of projects.
After her extensive research of African architecture, Susan Denyer suggests the following:

"Should the traditional styles be allowed merely to decay? This is of course a question which can only be answered by each community of people concerned. It is certainly not for outsiders to dictate policies which may be said to spring from sentimental European notions of conservation or a hankering for a return to pre-industrial harmony. What is important, though, is that those making the decisions — including ordinary citizens as well as administrators and planners — should not still be inhibited by the feeling that everything about traditional architecture is wrong."[^3]

Traditional styles have been set aside for an aesthetic that is relatively uniform between organizations in the region. In Uganda’s past there were opportunities in building to express cultural identity. These relatively uniform building methods that NGOs follow do not offer the same opportunities for that expression. The complexity of identity is further compounded by Uganda’s young generation who is growing up in a much different country from even ten years ago; they are caught between traditions, past tribal confrontations, and significant economic development.

“Tectonic becomes the art of joinings. “Art” here is to be understood as encompassing tekne, and therefore indicates tectonic as assemblage not only of building parts but also of objects, indeed of artworks in a narrower sense. With regard to the ancient understanding of the word, tectonic tends toward the construction or making of an artisanal or artistic product…”[4]

“Greek in origin, the term tectonic derives from the word tekton, signifying carpenter or builder. The corresponding verb is tektainomai. This in turn is related to the Sanskrit taksan, referring to the craft of carpentry and to the use of the axe. Remnants of a similar term can be found in Vedic poetry, where it again refers to carpentry. In Greek it appears in Homer, where it alludes to the art of construction in general. The poetic connotation of the term first appears in Sappho, where the tekton, the carpenter, assumes the role of the poet. In general, the term refers to an artisan working in all hard materials except metal.” - Kenneth Frampton [5]

The tectonic of Uganda resides in its rich history of craft and construction of shelter, and still exists today in villages scattered across the country. In most cases these shelters are constructed without the aid of architects or specialized builders. They are a manifestation of the community’s joint effort to ‘create’, together – ‘Every man is a sufficient architect for the purpose’ [6]. Different tribes have refined their shelters over several generations according to their needs and each is unique to its tribe though seemingly similar to a foreigner. For the most part due to the nature of the materials used they have a short lifespan and require renewal every few years. This cycle of building renewal

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5 Frampton, Studies in Tectonic Culture. 3.

does not make them any less valid as architecture, but rather offers continued opportunities for community interaction in response to a society’s habitation needs. [7]

In the pre-colonization period, building was and evidence points that it still is today in rural villages, a significant social occasion. Denyer notes that both men and women of a village cooperated. The thatching was often done by the women while the walls were constructed by the men. Given the nature of the communal effort one could come to the conclusion that the construction was relatively simple, however given the limited materials available getting a structure to stand required a great deal of knowledge and skill. Recognizing this fact also suggests that this knowledge has been passed down from generation to generation, an exercise particularly frequent in non-literate cultures. As Denyer points out; “writing them off as ‘primitive’, whatever the technical meaning of this term, can be dangerously misleading.” [8]

In the 1970s and 1980s Denyer notes that architects were turning to vernacular architecture for inspiration. She points out however, that it was not simply to repeat the structures that they found, but rather to recognize their success in satisfying their communities’ psychological needs far better than most modern suburban settlements did during that time. [9] Unfortunately not all architects or builders recognized this value in vernacular architecture.

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This lack of value of East African vernacular architecture becomes particularly evident during and after the British colonization. When the English established settlements in East Africa they built according to their traditional methods, most often with reinforced concrete and reinforced concrete masonry units (CMUs), in traditional period architectural styles. These designs may have accommodated those whom they served, however “their place in modern Uganda has been criticized for failing to meet local housing needs and promote the use of local materials and forms.” Even so, this newly introduced style did not dissipate with England’s departure from East Africa. In many urbanized towns this masonry aesthetic was emulated by natives who considered it an esteemed building type, a step above their indigenous vernacular methods. They achieved a similar aesthetic with an un-reinforced masonry method that led to dilapidated buildings due to their inability to withstand the weathering or seismic conditions of the region. In addition to the threat of injury, consistent repair and rebuilding has contributed to deforestation for the firing of new bricks. Mark R.O. Olweny, a Ugandan architect and professor points out that, “the post-colonial period has been a painful discovery that the invented traditions and value systems were inappropriate for Africa. It is thus up to Africa and Africans to rediscover who they are, and where they want to go in terms of architectural expression.”

It would not be appropriate to suggest that Uganda should return to its traditional building methods in search of its cultural identity as it’s imprinted architecturally. This notion suggests that the African way of life has not changed overtime. The iconic image of a hut built of indigenous materials is often times how foreigners portray African building, and it is perhaps this very reason why emulating masonry buildings happen in search of a new modern cultural identity. Despite its appropriate or inappropriateness, colonial architecture impacted Uganda significantly and has seated itself as part of its history and architecturally historical forms in addition to Ugandan traditional architecture. To turn a blind eye to the colonial aesthetic would be turning a blind eye to Uganda’s history. Olweny points out that, “architectural identity is more than just form and materials – the aesthetics of a building - but also about its function – the ability to define space in the context of a society.” Olweny’s point suggests that cultural identity is not limited to aesthetic, but that form and the success of a building to accommodate new patterns of life begin to define cultural identity through architecture.

When non-government organizations (NGOs) began contributing support towards building new infrastructure they followed the same masonry aesthetic, most likely because of both the desires of the locals and because of the ease of construction. They offered a safer method of un-reinforced masonry construction that included a concrete ring beam system that stiffened the building for seismic loads; this became the common structure regardless of

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10 Kefa, Culture and Customs of Uganda, 57.
14 Ibid.
and can only build simple structures with the assistance and training of western NGOs. Just as Uganda has developed and grown, so have Ugandans. Many young people have learned and developed new skills and refined trades that had not existed in the past, such as metalwork and carpentry. Young men and women have become very skilled in these new trades but have had a limited opportunity to express themselves artistically through them. When each building is built in the same manner as the next, as NGOs tend to do, opportunities for cultural expression through the tectonic are missed.

“Gregotti maintains that detailing should never be regarded as an insignificant technical means by which the work happen to be realized. The full tectonic potential of any building stem from its capacity to articulate both the poetic and the cognitive aspects of its substance. This double articulation presupposes that one has to mediate between technology as a productive procedure and craft technique as an anachronistic but renewable capacity to reconcile different productive modes and levels of intentionality. Thus the tectonic stands in opposition to the current tendency to deprecate detailing in favor of the overall image. As a value it finds itself in opposition to the gratuitously figurative, since to the degree that our works are conceived as having a long duration "we must produce things that look as if they were always there."” [15]

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02.2 through Temporality...

"The creative power exhibited by the African self-builder is a source of inspiration and innovation." [16]

The concept of permanence was most likely introduced through British colonization and continues to be realized by foreign aid; yet in Africa more than 80% of the buildings have been built by the people who live in them. [17] Unfortunately this is more often out of need rather than choice, as exemplified by the populations living in Africa’s bidonvilles. Despite the negative perceptions of slum settlements, Antoni Folkers raises the question, “whether one should strive to change this; would people not prefer to live in a house they themselves had built?” Folkers continues to suggest that perhaps we should be questioning the permanence of buildings; with modern man now more mobile than in the relative past, habitation requirements have been consistently changing. The original paradigm where man once ‘settled down’, grew a family, climbed the corporate ladder, ‘emptied the nest’, retired, and perhaps moved to a retirement home is now being challenged. With that change in the pattern of aging should not also the paradigm of habitation be challenged? Perhaps our living environment should not remain static for generations but rather allow for change after a period of use. [18] Uganda as well has witnessed a shift in the cultural pattern of living and family development, yet modern Ugandan structures

17 Ibid.
18 Ibid.
haven't yet accommodated for that shift. Examine Uganda's historical indigenous vernacular might provide answers to modern problems.

Most African buildings were built as temporary structures for very similar reasons and were never meant to be permanent. Many African cultures required an inherent temporary nature of their buildings. Often times tribes were hunter-gatherers, or were migrant pastoralists who practiced land rotation and moved every four or five years. Denyer gives another example of the Tiv tribe that when "one chief died and another was appointed, the houses were gradually reoriented as they were rebuilt to face the house of the new chief; houses were built to reflect the social arrangement and people did not move to fit in with the arrangement of the houses." It wasn't just that the materials employed didn't allow for permanence - the people could have most likely adapted new technologies just as we have over time - rather, they were built in a manner of adaptability and sustainability. Buildings were built with their temporality in mind and when the use of a structure reached the end of its necessity and the building was abandoned any component that wasn't already depleted was reused elsewhere.

Prior to NGO's providing construction aid, community buildings in villages were built by the community for the community. Some NGOs are getting better at identifying the assets of the communities they are helping and involving them in the design and building process, however they are still constructing permanent buildings that, once completed, no longer require the community to gather together at a later period for the same cause and purpose. Essentially, besides having a robust building, only one generation reaps the benefits of camaraderie from a joint communal building effort. This is perhaps one aspect of African culture that shouldn't be pushed aside and forgotten so quickly. As mentioned earlier, the new identity of Uganda's young generation might be interpreted as 'unity' - a community joining together to achieve the same mission and realizing success is inherently unifying.

"In many cases the old materials may be unsuitable for modern living, though many people find that a mud floor and a thatched or mud roof is far more comfortable than a concrete floor and a tin roof. But surely the spirit of making buildings sufficiently flexible so that they can be adapted to meet the needs of each generation of inhabitants can never be wrong at any time or in any place?"
The other unique opportunities for this method that open up are that of empowerment, inspiration, and creativity through the expression of self-building. Beyond the self-accomplishment and unity that is felt by dwelling in a building that one constructed with their peers, crafting a structure opens up opportunities for self-expression. Personally, when I construct something and see it realized before me, I can’t help but see myself or my identity expressed through it – through its form, the materials I chose, my detailing, etc; structures represent the builder.

Though the inspiration for self or communal-built structures is derived from Uganda’s indigenous vernacular, self-built Ugandan structures should not necessarily have any similarities to indigenous historical huts. The builders themselves should determine what their needs are apart from foreign influence; we simply offer the tools they need or partner with them to the extent they request. Historically our role as westerners to African countries has been that of aid orientated relationships, but Uganda has developed to the point where our role can be more business, or partner orientated. There is a tremendous amount of creativity and power that has already come from African cities apart from foreign aid. We don’t have to look far to find examples of African creativity and ingenuity. For instance we see this happen at websites like AfriGadget.com and Afrimakers at hackidemia.com where inventions, inspiration and ingenuity developed throughout Africa are shared through the medium of the internet across the continent.

“Unlike conservative vernacularism, neo-vernacularism does not depend on the continuation or reintroduction of a local building culture for traditional building types, but on traditional building methodologies being used as a historical reference and a source of inspiration for a modern typology.”

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23 Antoni Folkers. Interview with Piervincenzo Canale. (Africanews.it, 23 September, 2011.)

Uganda, as with other African countries has a rich history in the fabrication and function of craft and crafted artifacts throughout their culture. These crafted artifacts have both functioned as aesthetic art and functional artistic expressions. Such artistic expressions have taken the form of paintings, wooden and stone sculptures, bark cloth, jewelry, weapons, earthen pots, mats, and baskets and more recently have included ceramics, textiles, fashion and clothing, and sculpture in other mediums. In these different ways Ugandans have expressed their cultural identity through both aesthetic art and functional artifacts. Even today crafted functional artifacts have not yet been replaced with mass produced items. Textiles and clothing continue to be a significant form of artistic expression in Uganda and feature decorative textile material that come in a variety of colors and various patterns such as flowers and African wildlife expressed in their artistic vernacular. Functional crafts continue to have their place in the household as well in the form of mats, pots, baskets, stools, and various containers that have their own unique aesthetic appeal. Though these types of items are now widely available across Uganda through industrialized methods, due to the cultural value and affordability, the traditional value in crafting these items has persisted.

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25 Kefa, Culture and Customs of Uganda, 52.
26 Ibid, 56.
Traditionally these crafts have had opportunities for expression in the built form as well. This is most commonly seen in the weaving of thatch roofs, and floor or wall mats, or more abstractly through the rendering and painting of walls and floors. [27] Modern construction has minimized the opportunities for this artesian expression. This third strategy seeks to reenlist the artistic expression through craft in the built form as it was historically, through opportunities in contemporary forms. The value of this strategy appears obvious and shouldn’t be limited to just Uganda when we consider the enjoyment and satisfaction that could ensue from not only contributing to the aesthetic of one’s dwelling, but actually shaping the form personally, and having the opportunity to express one’s identity through the craft as it contributes to the built form of their own space.

The reality is that cultural identity is not fixed, stable, or unified. To apply crafted components to built-form in the hopes that they will express a cultural identity simply due to the historical value of cultural expression is a fruitless effort.\[28\] This application is not much different than an architect specifying the paint scheme of the building to that of the client’s national colors. The reality is that an outsider can in no way determine or even interpret properly what the cultural expression of an individual should be. The individual, if they are even able to determine what their cultural identity is, has the best chance to do so themselves, and even then it will most likely change over time. Providing the opportunity for this expression to the individuals who indwell the space through careful consideration of architectural components that can be manipulated by the user themselves has the most likelihood of success to interpret cultural identity through architectural craft.

The topic of helping the needy and poor of the majority world or even the western world and the method of doing so is not without its debate. There are many schools of thought concerning the proper method of helping the poor and the answer to the question of whether it is our place to involve ourselves. The topic of humanitarianism begins to get complicated when one starts to really analyze the implications or cause and effect of one’s actions in trying to help another. This cause and effect can begin with something as small as one person giving some change or food to another, all the way to the larger scale of a Non-Governmental Organization (NGO) helping a community develop their village. Before any one person or organization can even begin to help those in need in a positive way without doing more damage than good, they need to assess the type of aid that is needed.

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Steve Corbett and Brian Fikkert, the authors of When Helping Hurts, suggest that not all poverty is created equal. They explain that there are undoubtedly different levels of need, and group them into three categories: Relief, Rehabilitation and Development. Relief is the “stop the bleeding” type of assistance or, in another way, a “provider-receiver dynamic” where the provider offers assistance that is usually material, most commonly after some sort of disaster where the receiver is largely incapable of helping themselves at the time. Rehabilitation starts once the “bleeding is stopped”, and works to restore the person or community to the original positive conditions prior to the crisis. Corbett and Fikkert suggest that the key feature of rehabilitation is the dynamic of working with the victims as they participate in their own recovery. Development is the long term effort to create a better environment for a community in need or an individual person. The key component of development is working side by side with people, helping them realize their own potential and empowering them to generate positive change by utilizing their own assets, skills, and resources found within their community. [2]

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A careful analysis must be made to determine whether relief, rehabilitation or development is the appropriate intervention. Corbett and Fikkert note that, “one of the biggest mistakes that North American churches [and NGOs] make by far is - applying relief in situations in which rehabilitation or development is the appropriate intervention.”[3] To determine the type of intervention needed, several questions should be asked:

- Is there really a crisis at hand? – If immediate help is not provided will there be serious, negative consequences as a result?

- Is the individual or community in need of relief as a result of their own doing? If so perhaps the appropriate action is not necessarily to punish them for their mistakes but ensure that the appropriate lessons are being learned from the situation.

- Can the individual or community help themselves? Corbett and Fikkert suggest when this is the case, “a handout is almost never appropriate, as it undermines the person’s [or community’s] capacity to be a steward of their own resources and abilities.

- Has the person or community been receiving relief from others in the past and how likely is it they will receive more in the future? Persistent support can establish an unhealthy habit or need of constant assistance or dependency. The appropriate thing to do, although very difficult, would be to withhold further relief and offer the opportunity to work together to find a long-term solution.

Applying relief when it is not needed can do more harm than good. Corbett and Fikkert spell effective relief as, “S-e-l-d-o-m, I-m-m-e-d-i-a-t-e, and T-e-m-p-o-r-a- r-y.”[4]

One must be careful when assessing the needs of an individual or community however. Although a needs assessment might be a required start to analyze what the situation is and the appropriate course of action, it can also be damaging to the individual or community. A needs based assessment tends to ask the questions, “how can I fix you?” or “what is wrong with you?” This type of assessment along with pouring in outside resources can exacerbate the feelings of helplessness and inferiority and inflate the possibly already lingering feelings of paternalism, which must be avoided.[5] To avoid these pitfalls of a needs assessment, conducting an ‘asset based’ assessment can be a beginning method to empowering the community.

Corbett and Fikkert’s system of “ABCD – Asset Based Community Development”, places the focus on what the people already have. From there they can begin asking the questions of; What is right with you? What skills, talents, gifts, etc. do you have that you can use to improve your life and that of your neighbors? In what ways can the people and organizations in your community work together to improve it?[6] This ABCD method, by asking - What gifts

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3 Corbett et al. When Helping Hurts. 100.
5 Ibid. 110.119
6 Ibid. 120

Part 1 Conceptual Strategies

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03 Approaches to Methodology
do you have? – upholds people’s dignity and contributes to the process of overcoming their “poverty of being”. To begin this assets based assessment the ABCD method follows these four key elements:

1. Identify and mobilize the capabilities, skills, and resources of the individual or community. View the poor people and communities as an untapped resource full of potential.

2. As much as possible, seek solutions and resources from within the community, not from outside (foreign) sources.

3. Build and rebuild relationships among local individuals, associations, churches, businesses, schools, government, etc. Humans are designed to be in community, interconnected and complementary.

4. Only bring in outside resources when local resources are insufficient to solve pressing needs. Be careful about bringing in resources that are too much or too early. Do this in a manner that does not undermine local capacity or initiative.

Once again where the needs-based assessment focuses on what is missing from the community or person and reinforces the assumption that solutions to poverty are dependent on outside help and resources, the asset based assessment looks inward for solutions. Once the assets have been mapped out and identified, only then is it appropriate to ask the individual or community the pressing questions: “What ‘needs’ can you identify that must be addressed?

What problems do you see that must be solved? How can you use your assets to address those needs and to solve those problems?”[7]

The application of Corbett and Fikkert’s ideals and system works well when there is an obvious need or the community has reached out for some sort of assistance. But one of the important considerations that the authors do not touch on is the role of “development”, as defined earlier, in a community that may not necessarily feel the need to be “developed”. The relationship and desire for us to come alongside them as a partner should be something that has clearly been requested so that we are not finding ourselves simply pushing our ideologies off on someone who has no want for it.

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03.2 Watoto College

The Watoto Koch Agricultural & Technical College is a vision by Watoto, a Ugandan ministry, to provide valuable, income-generating skills to a community that has lost much of its skill-based knowledge due to wars and civil unrest. The Koch campus is a 450 acre self-sustaining college capable of providing an education to over 400 live-in students, together with 100 adult staff and support personnel. The Watoto model focuses on building community, and as such the living clusters are designed in a manner to promote this, rather than utilizing typical dormitory accommodations. The housing is split into 4 "micro villages" connected along the 'main street' of campus. Each "micro village" is further divided into 5 clusters where a cluster includes two student housing units and one matron housing. The student housing units provide 3 rooms with 4 students each rounding out each cluster to 24 students supported by senior staff. In addition each cluster is dedicated approximately 1 acre of land, a 'home plot', where students can experiment with agricultural techniques and as a larger community manage their parcel together.

Each building was designed with the building process in mind: The design and intention of each building was influenced and informed by structural requirements according to the appropriate seismic response. The seismic considerations were incorporated early in the design process which enabled purposeful deployment tightly integrated into the building design. For example,
in the case of the classroom blocks the thatched screening frames act as lateral support for the building, while in the living units corning bracing is featured as an expression of traditional African lattice and weaving.

Typically in this region an appropriate seismic structural response would have been to utilize a concrete frame with masonry infill. This is the construction type that most NGOs would employ in these types of seismic areas. This type of construction requires a higher level of construction knowledge and experience in addition to greater coordination efforts than typical unreinforced masonry. However, Watoto wanted to open the opportunity for unskilled workmen to contribute to the project either as volunteers from the U.S. or local men and women seeking to learn a new trade. To accomplish this, Engineering Ministries International (eMi) of Uganda, in partnership with Integrated Design Group (IDG) from Australia, developed a construction detail system which allowed for skilled craftsmen to ‘bookend’ the start and finish of the project. First they set up the “framework” of the structure where accuracy was critical, then the volunteers and unskilled workmen could lay the masonry walls with minimal supervision, or assemble the pre-fabricated components that were constructed offsite in Watoto’s own fabrication workshop. Once they were finished the required craftsmen could return to cap the walls with a concrete ring beam, finish the roof construction and in the case of the dorms, weld the pre-fabricated corner bracing panels to the ring and floor beam to give the rigidity for lateral forces.

This strategy focused the energy to where low tolerances were most critical, and relaxed the construction techniques where higher tolerances were allowed. It made use of pre-fabricated components which opened opportunities for craftsmen off-site to make a contribution to the project, and enabled a higher level of craft typically unable to be accomplish on site. This kit of parts also offered ease in construction, the opportunity for unskilled workmen to contribute and a quicker build time.
03.3 Burkina Faso Primary School

The Gando Primary School, located in the land-locked country of Burkina Faso in West Africa was designed by native architect, Francis Kéré. The Burkina Faso native, turned Berlin architect, knew of the lack of education and proper infrastructure in his country and was compelled to contribute what he could towards a change. This school has now become a catalyst for the neighboring village and experienced growth itself. The teaching staff has tripled from three to nine and applications to the school have now begun to outnumber the amount of spots available. [8]

Kéré also used the school itself as a teaching tool for the builders through first completing an assessment of local builder’s skill sets and then adapting the design and construction method accordingly. For example, Kéré felt that adobe construction was a more sustainable building method and could be better suited to the local conditions than the dilapidated buildings typically found in the area, but he did so in a way familiar to the village’s craftsmen by creating adobe blocks. The people of the village were reluctant to use adobe construction because of the “backwardness” connotation they apply to it, but when Kéré incorporated the technology in a manner and aesthetic familiar and accepted by the village, they reluctantly agreed to its use. Even so, it wasn’t until after

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project completion where a heavy rainfall proved the durability of the adobe-brick construction that the village was convinced of the design.

"According to people in my region, Europeans use more solid materials, like concrete or steel, when they build houses for themselves. This is [seen as] progress. But Europeans suggest a different solution for Africans: Africans should keep living in their small, dark clay huts. The villagers found that unacceptable because they equate clay with backwardness.” - Francis Kéré [9]

Kéré specified the mixture of adobe, cement, and water that was then pressed into blocks. These blocks cured in the sun and were nearly equal in strength to more expensive concrete blocks or fired clay bricks which require more energy in the making process and have contributed towards deforestation in the region. These new blocks though made of earth from the site offered an improved lifespan and could be constructed in a manner local craftsmen were already familiar with, the only new training required was leaning the proper mixture and use of the block press: Using existing construction practices while introducing simple new material practices opened up opportunities for the transfer of knowledge and skills. It has been reported that craftsmen who learned the adobe brick making process have already found work applying the new technology at other building sites. [10]

10 Ibid
These types of building technologies create more than just an impact of a “building”; they foster growth in the area and touch the lives of each individual who has a hand in the project. Although Kéré used a new, maybe unfamiliar technology with an altered mixture of the adobe brick, it was still a familiar building method, and now the workers who were trained in making the brick can go on to teach the same technology and continue to use that new technology throughout the area, creating buildings that are stronger and weather better. Additional features of the school that should be considered in the construction of most African buildings were the extended overhangs which protected the building from rain and prolonged weathering, high ceilings which helped create roomy spaces and circulate airflow to maintain a pleasant inside temperature, and separation between the metal roof and the ceiling below which prevented the heat from the roof from radiating directly to the classrooms below.\[11\] The roof structure was composed of light weight metal trusses welded together from reinforcing bars, another common technique in the region. The light trusses could then be easily lifted into position without the need of a crane or other machinery. By using these indigenous techniques and adapting them in ways not typically considered, Kéré was able to produce a culturally appropriate building that blends the native craft/building knowledge with sustainable and economical technologies.\[12\]

\[11\] Lepik, Small Scale Big Change. 34.
\[12\] Architecture for Humanity. Design like you give a damn. 252.
Mason Lane Farm, through sited in Kentucky, shares many similarities to a site in Uganda, and utilizes building strategies that could be applied cross-culturally. The program, a hay drying facility and farm equipment workshop is considerably different from a Ugandan secondary school and dorms, however the overall building form is quite similar. The budget was minimal for the Mason Lane buildings considering their use, so construction remained simple and passive approaches to environmental strategies rooted in the simplicity of regional farm building were employed to accommodate the minimal budget and to respect the client’s “sense of stewardship of the land”. In addition, given the region that the project was sited, advanced construction techniques came at a premium price. De Leon + Primer believed the best strategy was not to complicate things with advanced structural systems and complicated detailing but rather to use the given building methods to their advantage with simple yet sophisticated detailing; ordinary materials were favored over specialized systems.

In essence the farm buildings are pole barns, a common construction method for this building type, but they extrapolated the kit of parts out of that system for use in more unconventional ways. These re-adaptations of a kit of parts yielded a different and attractive aesthetic yet

were constructed in familiar methods to the contractors and carpenters.\textsuperscript{[14]} None of the building materials had any finishing applied to them. Instead each material was left raw to express its own natural beauty and be turned into a design feature, not trying to defy what it was or pretend it was something else. Each component of the layered construction was more or less ‘off the shelf’ and either commonly used by the carpenters day in and day out or known well enough by them to adapt quickly. By using these ‘off the shelf’ components De Leon + Primer defined a kit of parts for the project as a whole. Knowledge transfer was allowed to ensue easily as no special skills were needed in addition to the carpenters’ existing knowledge.

The bamboo, was perhaps the most unique building component that was not necessarily an ‘off the shelf’ product and was a very different cladding system than what is typically used for a pole barn. However though it was not a typical ‘off the shelf’ component, it was sourced only a few miles away from the site, picked up and even detailed by the contractor. The contractor suggested the metal ties as the best attachment method. Though it was an uncommon use to the contractor, he knew how to work with it (without special detailing methods).

This project has received a considerable amount of press in a very short time. It serves as an example that building components used in a slightly atypical way can very quickly promote a unique aesthetic without additional or new construction techniques. This simple approach supports knowledge transfer and adaptation to other similar projects, and thus can be replicated in other new compositions.

Successful projects have been those that have considered the community first before considering the building. In that I mean, the projects where the community has had the most engagement, confirmed self-worth, and development has been those that engage the people in a collaborative partnership. Through this method the greatest impact can be made as the project in turn becomes a catalyst for learning and positive change in the community, in addition to hopefully achieving its original objective. Careful consideration needs to be made to the construction methods and materials and resources that are available. This goes back to trying not to impose ideas upon the people but rather using what they know and what they have available to create something new, advanced, and exciting. Utilization of available resources encourages the spread of knowledge after the project has finished. New advanced building technologies will end with the finished building and will not be adapted to future buildings in the community if they are not accomplished with methods familiar and resources available to the people.
When any architect designs outside of their normative cultural context the appropriate practice must be followed to ensure the proper response for building design. The design process of this thesis is no different, and as such the design motivations are a cultivation of contextual influences. To design outside of one’s own culture there must first be a study and understanding of the ethos of which the work is situated within. That study must include, but not necessarily be limited to, the understanding of local culture, the interactions with each other and with the built environment, the culture of dwelling, building methodology and sourced materials, and the community interaction, process, and expectations of building.

This thesis is derived out of a direct personal experience to the culture and context of Uganda. In 2011, I lived and worked as an architect in the capital city of Uganda, Kampala for six months. During that time, I was immersed in the culture daily and would often spend my free time on weekends to explore the nooks and crannies of the city myself. Often times I found myself far off the beaten path where many muzungus (white person or fittingly directly translated as ‘someone who roams around aimlessly’) would typically not be found. I worked at the office of eMi (Engineering Ministries International) and spent the majority of my time on the design and development of an agricultural and vocational college in Gulu, Uganda which
would serve Northern Uganda’s youth through education and training, which most of that generation lacked, due to the civil war and unrest fought on the soils of that region. With my work on this project I had the opportunity for direct contact with the client, Watoto, and spent over a week at the site. Through that interaction with Watoto and the guidance of eMi, I gained a deeper understanding of Uganda and appropriate design considerations for the cultural context.

To root this thesis soundly within the ethos of Uganda the research and development will be accomplished through partnership with eMi-EA. Engineering Ministries International - East Africa (eMi-EA) had been established in Kampala, Uganda for over 10 years and yields a deep understanding of designing with the people and for the people of Uganda. The eMi-EA office includes of makeup of both western and Ugandan architects and engineers. In addition, the client, a partnership between Amazima Ministries and Good Shepherd’s fold, has over twenty-five years of experience between them serving in Uganda. This thesis seeks to draw on the knowledge of theses ministries through partnership as a resource and cultural grounding.
Part: Strategy to Reality
The client, Amazima, which in Luganda (the local language) means “truth”, currently sends over 600 children to Christian schools, both primary and secondary, through their sponsorship program. Amazima has been formally providing an education for children in Uganda since 2008. Amazima has developed an expansive knowledge of the Ugandan culture, local pedagogy, and the aspirations of these young future Ugandan leaders.

Amazima Ministries seeks to provide a secondary school just outside of Jinja, Uganda; their mission statement is as follows:

"Amazima Ministries has identified the need for high quality secondary school education in Uganda for their sponsored children that will teach a Christian worldview and help students think more creatively. To make this vision a reality, Amazima has recently purchased a 40 acre piece of land in Jinja, Uganda, with a vision to develop it into a secondary school campus which will include boarding, staff housing and sports facilities. The purpose of the school will be to equip students to glorify God in all areas of their life with the hope that they would one day become missionaries, pastors and godly leaders."

Amazima ministries is seeking to build a secondary school campus on 40 acres of land just outside of Jinja, Uganda. In Uganda, secondary schools have two divisions, S1-S4 which range in age from 13-16, and the upper level S5 and S6 programs where students range in age from 16-18. Amazima hopes to provide two lower secondary schools and one upper level secondary school in three phases with its complete capacity serving 700 students. Boarding for the students and staff is also to be provided with accommodations to separate boys from girls.

Though the program is vast, this thesis only focuses on two building types that through critical analysis and development can yield a design methodology applicable across various programs. These two building types are the class blocks and the dormitories. Focusing on both the class blocks and dorms covers the broadest spectrum of design considerations that directly impact the cultural identity of the youth occupying them.

The school, upon completion of all phases is to include:

- 36 classrooms approximately 6mx8m in size, 6 of which are to serve as vocational class rooms (labs, home education, metal work, wood work, etc).
- 30 administration services varying from 3mx2.4m to 4mx4m.
- Library
- Kitchen and dining hall
- Clinic
- Main hall (auditorium/assembly area)
- Chapel
- Boarding to accommodate 700 students at 2.4-3.4 sqm/student
- Staff housing, 5mx8m per family
- Maintenance buildings
- Sports facilities:
  - Futbol
  - Netball
  - Basketball
  - Volleyball
- Latrines, shower, and clothes washing facilities
The project offers a great opportunity as the framework to situate this thesis because of three key aspects; site, program/client, and detail. First, the project's location: This project is sited in a sub-urban context just outside of Jinja, one of Uganda's largest towns and busiest commercial centers in the country, after Kampala. Jinja and Kampala are connected via highway and currently it takes roughly an hour to drive east to Jinja from Kampala. However, the government of Uganda has plans to construct an eight-lane express highway between the two cities to handle the rising traffic. In the near future, Kampala and Jinja are likely to become the epicenters of development and ingenuity for the southern region of Uganda.

Another advantage of the site's location is the proximity to a vast resource of materials. Kampala, due to its close proximity, will be fully dispensable to offer a broad material pallet, component fabrication, and other construction resources when not available in Jinja. However, Jinja in itself has the capacity to offer a broad material pallet as it has become one of Uganda's primary industry sectors. A large part of Uganda's building materials are refined and produced in Jinja, such as metals, timber and copper. Jinja has a number of metal and wood fabrication workshops and can provide individuals who are specialized in various trades.

The second key aspect is the academic program which is rooted in the quintessence of ingenuity and the very essence of this thesis. It’s fitting that the testing bed of new cultural identity through architecture is explored within academia. These buildings support the development of today’s youth and represent progress; the tectonics should represent and supplement this advancement. This building program offers that opportunity to explore this relationship between youth, pedagogy, and tectonic to ideally yield a building methodology that embodies the new cultural identity of Uganda’s youth.

The other benefit of the proposed academic program is the extensive experience that the clients themselves bring forth as a contribution to the project. Between Amazima and Good Shepherds Fold these clients have over twenty-five years of active participation in the Ugandan academic culture. With that knowledge base they are an exceptional resource for the requirements of building design to support a secondary school curriculum.
Lastly, this project offers the desired opportunities for detail and tectonic exploration. In Uganda, structures with daytime only programs such as classroom blocks do not require complete enclosure and can be open air. Introducing an overnight component to the program through boarding students and faculty adds an additional detailing opportunity. Particularly this opportunity is both a response to the sociological desire of enclosure and to protecting the health of the inhabitants. The East African region is a high-risk malaria zone (in addition to other diseases). It is important to consider details that keep out mosquitoes and other pests that carry and transmit these diseases. This overnight detailing provides for further development, experimentation and expression of the tectonic pallet and building methodology.

An academic program also offers greater potential for adaptable and/or changing spaces. A medical clinic for example requires a greater level of permanence and a construction which accommodates such. There is opportunity to explore how a classroom could change, adapt, be deconstructed/reconstructed without jeopardizing too greatly the ability of the program it is supporting to perform. Dorms or student living units might offer an even greater opportunity for this exploration. The inhabitants of the dorms are frequently changing year to year and the buildings could potentially do the same. The permanence is less critical, and changing or rebuilding the structure could offer opportunity for direct engagement of the students to influence their own living spaces and express themselves through built form.
The 40 acre site is located just 4 km west of Jinja, one of Uganda's largest cities that is sited on the shores of Lake Victoria at the mouth of the White Nile. Jinja is 80km east of Kampala, currently about an hour's drive, with plans for a new highway that will reduce travel time between the two cities.\(^1\) Jinja is also a major industrial center producing much of the country's coffee, fish, oil, grain, tobacco, plastic, wood, paper and steel. The city also has a large stake in the country's timber and copper production. One of the primary reasons that Jinja has become such an industrial center is its proximity to the Owens Falls Dam and its large hydroelectric power plant.\(^2\)

The site of the secondary school campus is located on a hill roughly 3.5 km west from the White Nile River. With its close proximity to Jinja and the dam, electricity is provided to the site. The site also has quick access to the Kampala-Jinja Highway allowing for easy delivery of building materials or fabricated components.

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Kampala
Rural / Village Sub-Urban Urban
Lugazi Mukono Njeru
(Kampala - Jinja Hwy)

Jinja

06.02

06 Site
Each country and sometimes regions within countries have their own design conditions. Uganda is no different. Though similar to other countries in the Great Lakes region of East Africa, Uganda has a unique material pallet, climatic conditions, cultural considerations and construction methods. A building designed outside of these considerations, regardless of how brilliant it might be, simply would not be appropriate. It is therefore that much more important that the designer understand the parameters of which they are designing for. This includes but is not limited to environmental considerations such as solar path, wind directions, precipitation, temperature and climate, as well as material availability, construction knowledge and local building strategies. Understanding, and having a firm grasp on these parameters is critical to designing appropriate buildings that meet the conditions of the people and environment.
## Temperature | Climate

Traditionally the hot dry season is from December through February with rains beginning in March. Temperatures begin to drop through March and into April and average a few degrees cooler during this heavier rainy season through to May. From June to August, the dry season returns and temperatures climb but remain cooler than the hot dry season of December. September, October and November make up the second rainy season, but average less rainfall than March through May. The mean temperature range year round falls between 70 and 75 degrees Fahrenheit with average highs around 85 degrees and average lows around 64. Climatic conditions are similar across the Great Lakes East Africa region with variances in temperature mostly resulting from altitude changes.

### Climate & Characteristics

<table>
<thead>
<tr>
<th>Requirements</th>
<th>Design Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intense rain</td>
<td>Large roof with overhanging eves to protect building from driving rains Design to capture rain water Good ventilation for building materials to dry quickly</td>
</tr>
<tr>
<td>High heat</td>
<td>High ceilings Cross Ventilation Isolate heat generators</td>
</tr>
<tr>
<td>High humidity</td>
<td>Maximize wind velocity</td>
</tr>
<tr>
<td>Solar heat gain</td>
<td>Minimize heat gain</td>
</tr>
<tr>
<td>Low daily temperature variation</td>
<td>Low insulation req.</td>
</tr>
<tr>
<td>Strong sky glare</td>
<td>Maximize shading</td>
</tr>
<tr>
<td>Typical light winds</td>
<td>Wind capture</td>
</tr>
</tbody>
</table>

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Sun

The sun, particularly in the case of Jinja with its proximity to the equator (roughly 46 km north), remains above 65 degrees at high noon throughout the year. The east and particularly the west exposures receive the greatest intensity of sun. Minimal openings in the east and west facades offer the simplest protection from solar heat gain. Large northern and southern roof overhangs provide protection from driving rains, shade from the sun and allow large openings for the day lighting, ventilation and temperature control. Shaded areas are valued and often become gathering spaces with an escape from the intense sun.
Uganda’s wind direction varies according to the season, dry or wet, and with changing global weather patterns transitions between rainy and dry seasons have become more unpredictable. However generally warmer breezes predominantly come from the northeast during the wet season, and cooler breezes from the southeast during the dry season.\(^3\) An east/west building orientation takes full advantage of these wind patterns for cross ventilation.

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\(^3\) Folkers, Modern Architecture in Africa, 260.
Seismic

Much of Uganda is a seismically active area and architects should consider the design implications of providing seismically sound structures. Architects should avoid complex asymmetrical L-shaped or E, U, H and T-shaped buildings. Symmetrical, compact, simple buildings with a regular plan perform better when subjected to lateral loads such as earthquakes. With the advantages of reduced cost, ease of construction and phasing, and improvement in structural strength, a series of smaller rectilinear buildings are better than one larger complex building.\(^4\) One of the most common ways nonprofit groups accommodate for seismic considerations in these types of environments is through a rigid reinforced concrete frame with masonry infill. The bricks are then tied back into the structure with horizontal strapping set into the brick mortar. This construction system performs well in earthquake zones provided that there are sufficient columns, and this system also allows for maximum openings, something greatly desired in areas of East Africa. This system, however, requires the use of cement as a structural system and there are several issues with the use of cement in East Africa:

- Cement prices are extremely high and volatile and form the major cost of any building project.
- Aggregate rock is often hand crushed and the size of the aggregate will generally be larger than specified.


Concrete frames cannot offer consistent structural integrity without proper site supervision, quality control and considerable cost. There are other materials available as an alternative in East Africa that through creative application can ensure reliable construction from site to site, independent of foreign assistance.
Materiality & Craft

The site is just minutes outside of Jinja, a city that provides a large part of the industrial production of Uganda. This proximity allows for a wide range of architectural resources that Uganda has available, without the need for importing or transporting significant construction materials. For example, within or near Jinja are steel refineries and fabricators, timber mills and workshops, a copper refinery, leather tannery, paper mill, etc. In addition to the proposed vocational shops within the school program, Jinja has the resources to explore craft and tectonics fully.
Due to the nature of the materials used they have a short lifespan and require renewal every few years. This cycle of building renewal does not make them any less valid of an architecture, but rather offers continued opportunity for community interaction for a society’s solution to its habitation.

Susan Denyer

The tectonic of Uganda resides in its rich history of craft and construction of shelter and still exists today in villages scattered across the country. In most cases these shelters are constructed without the aid of architects or specialized builders. They are a manifestation of the community’s joint effort to ‘create’, together – ‘Every man is a sufficient architect for the purpose’. Different tribes have refined their shelters over several generations according to their needs, and are each unique to their tribe though seemingly similar to a foreigner.

Susan Denyer

In the pre-colonization period, building was a significant social occasion. Both men and women of a village cooperated. The thatching was often done by the women while the walls were constructed by the men.

Susan Denyer
“African buildings were never meant to be permanent. They were built only to serve a generation, or a certain part of one’s lifetime.”
Antoni Folkers

“More than 80% of the buildings in Africa have been built by the people who actually live in them, and this percentage will not quickly alter in the near future. The question is whether one should strive to change this. Would [Dutch] people also not prefer to live in a house they themselves had built?”
Antoni Folkers

“Modern planners primarily view self-build projects, at best, as temporary solutions, which is why these projects have attracted so little attention. The question arises as to whether a temporary house is not better suited to modern man, who is always on the move.”
Antoni Folkers

“The creative power exhibited by the African self-builder is a source of inspiration and innovation.”
Antoni Folkers

“Where the terms traditional and vernacular meet is when vernacular goes back to its Latin meaning to designate “things that are home-made, homespun, homegrown, not destined for the marketplace, but are for home use only.”
Ivan Illich
In a conversation about how architecture could influence its users, the question arose, “what if a door could not be opened by just one person?” - Would community be strengthened out of necessity for one another? Likewise, what if a space could be manipulated to serve multiple purposes but could only be changed through collaboration? - Would this encourage people to join together for a common purpose? If the manipulated results or uses could vary then the desired result would have to be predetermined before beginning to reconfigure the space. This requires that an agreement is made between contributing individuals before carrying out the task at hand. This is the very strategy that has been integrated into the classroom block.

**08.1 Classroom Block**

The classroom blocks have been designed and detailed with the consideration of adaptability and manipulation of space. To achieve this the structural system has been simplified to steel columns wrapped in compressed earth masonry blocks and steel beams with light weight steel trusses supporting the roof. This simple and common system allows for the manipulation of the interior partitions. It is this manipulation that serves as a method to encourage the unification and camaraderie between students who are coming from diverse backgrounds and tribal groups. The method is simple but unique in that the partitions are created by a stacking system of inverted drawers/interlocking blocks (figure 08.05). These blocks,
3 meters in length, require at least 2 people to move into position and can be placed in varying configurations required for the task at hand. The intent is that these blocks would be crafted in wood and give opportunity for cultural expression through carving or other artistry in their production. Other opportunities for expression of craft exist in the door panels and ceiling. Papyrus reeds are woven into the door frames and ceiling to both provide shade from the sun and dampen the sound from rain on the metal roof while still allowing for air to circulate through the building (figure 08.07).
Dormitories in Uganda might be the most under-utilized archetype that offers perhaps the strongest and most direct opportunities for individual cultural expression through the craft, creation, and manipulation of one’s own space. While it might be critical for other buildings in a secondary school campus program to have a certain level of permanence and prowess, dormitories offer a unique opportunity to explore the necessity of longevity, and the advantages that might come from a temporal structure much like traditional Ugandan buildings. Allowing for certain components of the building to reach their lifecycle use over the span of a few years or the time that a student might have lived in a particular dorm for the extent of their education, allows for an opportunity for other students or the incoming class, with some guidance, to “re-build” certain components of their shelter; thus imprinting their identity in built form and allowing for individual expression. In addition, as Ugandan lifestyles continue to change, a temporal structure offers greater adaptability to the changing cultural requirements.
Tectonic | Temporality | Craft

Temporality and craft are certainly the dominant strategies of the dormitory buildings, but it is the tectonics of the structure that allows for these two strategies to occur. Compressed earth masonry walls capped with a continuous concrete ring beam and tied to the floor slab with metal corner brackets gives the building the lateral stability to withstand seismic loads while freeing up at least two walls of each dormitory room to be inserted with non-structural temporal components (figure 08.11). These temporal components, constructed as steel angle frames, yield opportunities where craft can be fully expressed through ways such as weaving, carving and wood work, metal work, etc. according to what the student determines as the frames infill. The make-up of each frame might even change before its life-cycle as students may determine their infill to be inadequate for climatic conditions or might like to simply redesign for a fresh aesthetic. The long-term intent is that with access to the school’s metal and wood shops, the students might eventually expand beyond the confines of the steel frames and develop their own systems to infill the open walls; offering the greatest opportunity for individual expression, and perhaps most closely representing the new cultural identity of Uganda.


Restless Development is a national youth led NGO seeking to empower and train young people as future leaders. Among other offices nationwide they have an office in Jinja and Kampala, Uganda run by local Ugandan youth.


09.1 Image Credits

01 Introduction


01.02 Shouder, Tim. "Uganda Tribes." 2014.

01.03 Shouder, Tim. Personal Photograph 2011.

02 Identity Interpreted

02.01 Shouder, Tim. Personal Photograph. 2011.


02.06 Shouder, Tim. Personal Photograph 2011.


02.08 Shouder, Tim. Personal Photograph 2011.

02.09 Shouder, Tim. Personal Photograph 2011.

02.10 Shouder, Tim. Personal Photograph 2011.


02.15 Shouder, Tim. Personal Photograph 2011.

03 Approaches to Methodology


03.10 Shouder, Tim. Personal Photograph 2011.

04 Design Methodology

04.01 Shouder, Tim. Personal Photograph 2011.

05 Client / Program

05.01 Shouder, Tim. Personal Photograph 2011.

05.02 Shouder, Tim. Personal Photograph 2011.

05.03 Shouder, Tim. Personal Photograph 2011.

06 Site

06.01 Shouder, Tim. “Uganda Map.” 2014.


06.03 Shouder, Tim. “Site Context.” November, 2013.

07 Design Parameters


07.06  Shouder, Tim. “Building Radiation Diagrams.”
       November, 2013.

07.07  Shouder, Tim. “Dorm Roof Adaptability.”
       February, 2014.

07.08  Shouder, Tim. “Building Wind Diagrams.”
       November, 2013.

07.09  Shouder, Tim. “Structural Diagram.” February,
       2014.

07.10  Shouder, Tim. “Materials & Craft Diagram.”
       November, 2013.

08 Design Strategies

08.01  Shouder, Tim. “Tectonic Strategy Graphic.”
       February, 2014.

08.02  Shouder, Tim. “Temporal Strategy Graphic.”
       February, 2014.

08.03  Shouder, Tim. “Craft Strategy Graphic.”
       February, 2014.

08.04  Shouder, Tim. “Classroom Block Exploded

08.05  Shouder, Tim. “Classroom Block Wall Assembly
       Detail.” February, 2014.

08.06  Shouder, Tim. “Classroom Block Use Diagram.”
       February, 2014.