The Promotion of Ecological Economics in Abrafo- Odumase Ghana, Africa.

A Thesis

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In partial fulfillment of

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By

Sara Musch

Miami University

Oxford, Ohio

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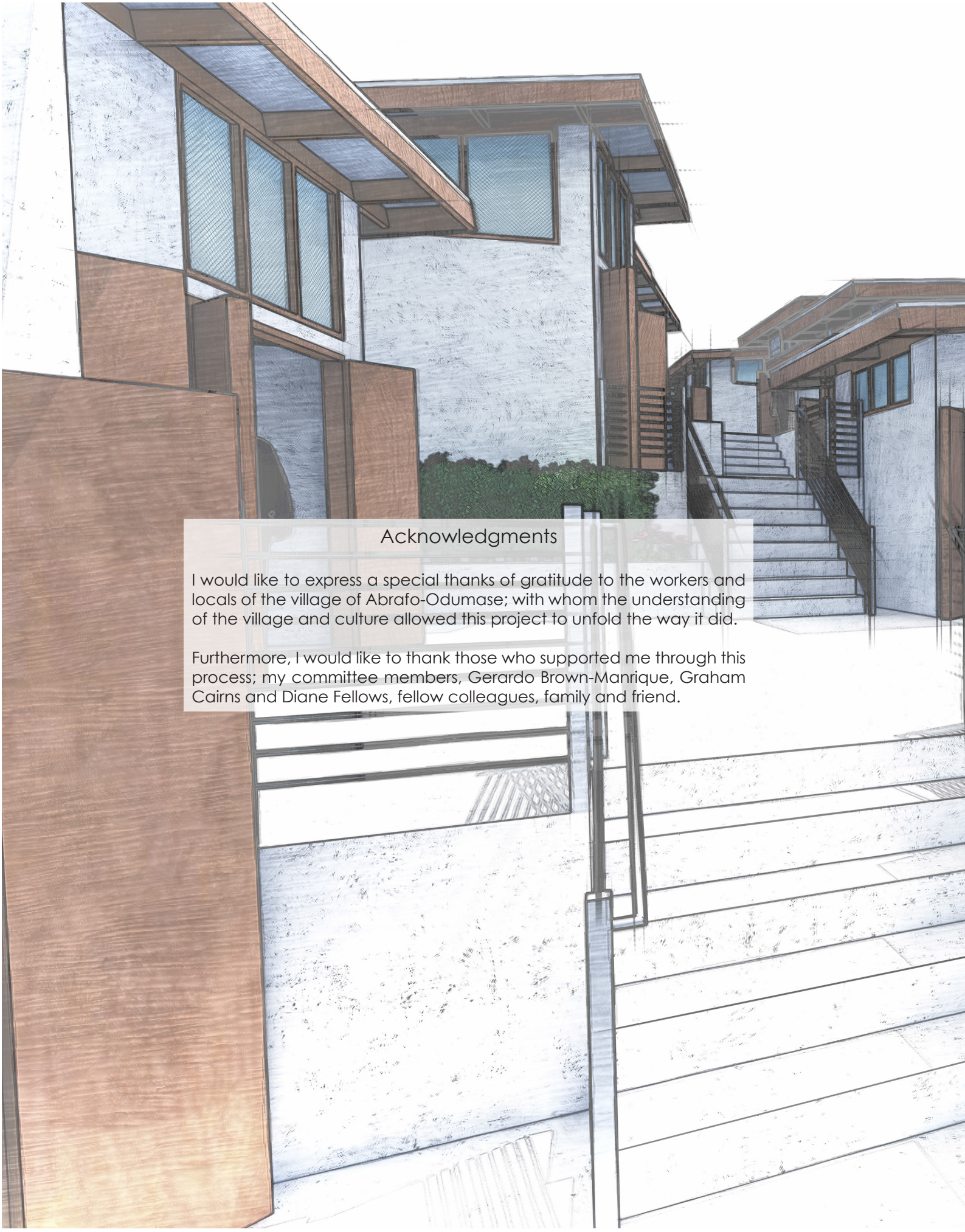
Advisor: _____
(Gerardo Brown-Manrique)

Reader: _____
(Dr. Graham Cairns)

Consultant: _____
(Diane Fellows)



Acknowledgments

I would like to express a special thanks of gratitude to the workers and locals of the village of Abrafo-Odumase; with whom the understanding of the village and culture allowed this project to unfold the way it did.

Furthermore, I would like to thank those who supported me through this process; my committee members, Gerardo Brown-Manrique, Graham Cairns and Diane Fellows, fellow colleagues, family and friend.

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Rethinking Volunteering Abroad: A Collaboration with a community to engage in a mutual exchange of knowledge.

Sara Musch
Miami University

ABSTRACT

In the twenty-first century global economy communities either profit and thrive, or they do not. According to United Nation (UN) statistics, nearly 82 percent of the world's population lives in a developing country moving towards highly developed economies or are still in the beginning stages of development. Through the analysis of the twenty-first century volunteer programs established in developing communities, this paper will provide strategies on how the assistance of volunteer organizations can empower developing communities to contribute to the global society in their own way. By engaging the village of Abrafo-Odumase, Ghana, the following questions were asked; if developing communities desire to be part of the twenty-first century global economy, what kind of partnerships can communities develop to establish opportunities for growth and cultural longevity? What kind of collaborative frameworks are necessary to address a community's desires? Are those desires necessarily appropriate for the wellbeing and longevity of a community? Based on frameworks that support growth, how does a collaborative strategy support a community that changes overtime?

METHODOLOGY

A brief overview of twenty-first century global development is considered and an analysis of three case studies pertaining to non-profit organizations (NPOs) in Ghana, and similar in other communities. The analysis considers the resources available in the communities to establish an exchange through the marketplace within a region as well as globally. In addition, the analysis will look at the role of the NPO within the community and the effects of the relationship upon the community. Through this analysis and interviews with the community of Abrafo-Odumase, strategies are suggested for communities to contribute to the globalized world. This will lead to design suggestions for a hypothetical NPO to implement a community engagement facility in a community in need.

INTRODUCTION

The twenty-first century ideal of global development breaks down to the post World War II and Cold War notions of what the First, Second and Third Worlds are and where the countries and allegiances are located. The First World is considered to consist of the United States, the United Kingdom, France, Germany and their allies. The Second World is considered to consist of Russia, China and their allies. The Third World countries are countries that are consisted neutral or do not align with

a leading power.1 These designations relate to the current dialogue of counties that are highly developed, developing or under developed. This is measured by using the Inequality-Adjusted Human Development Index (IHDI) which takes into account the Human Development Index (HDI) as created by the United Nations Development Programme (UNDP). By compiling composite statistics on life expectancy, education and per capita income, counties can be ranked on their potential development (as it is seen in the HDI) and then have an adjustment for the inequalities in the distribution of health, education and income per country (as seen in the IHDI).2,3 This ables the UNDP to quantify and expand "the richness of human life."4

First World countries tends falls under the top 25% of the highest developed countries where life expectancy, education and per capita income are highest in the world. Second World Countries tend to fall in the middle, between 25%-75% of the HDI. While, Third World countries are the lowest 25%.5 These countries that were considered to be non-aligned with the former Cold World allies, have a harder time being able to "be" and "do" desirable things in life, such as; being: well fed, sheltered, healthy - doing: work, education, voting, participating in community life.6

Rebecca Tiessen's book called Learning and Volunteering Abroad for Development discusses the reasons for volunteering abroad. First, one must make sense of the post-colonialist framework to understand the relationships, ethical issues, and cross-cultural experience in the respective country. This post-colonial lens can be a large contributor to the 'helping imperatives' that Barbara Heron discusses in her book, Desire for Development. Furthermore, she analyzes the idea of 'others' when western countries work to represent themselves. Tiessen concludes that the motivations of the western countries are based in "raced-based attitudes and how racism can shape the impacts of international development work."7 This is something to be cautious and aware of when volunteering with communities different from the volunteer's own background.

Tiessen analyzes how volunteers from Canada and the communities they serve are needed to lessen their impact on the community. Through this book, she describes how ten years' worth of data from seven host countries have impacted the understanding of volunteering abroad for developing communities. By first breaking down the understanding of privilege to the volunteers, she is able to embark on the first steps of understanding in a critical way how volunteering abroad can affect the communities being served. Furthermore, she takes an empirical look at the impacts on the community by breaking it down into three parts. First, providing the narrative of the young participates. Then providing the narrative of the cross-cultural staff and community. Lastly, analyzing the similarities and differences of the motives and rationales of both the volunteers and the community. Cross-cultural learning can happen through the simple things such as food, music and dancing, amongst others. However, with a lack of understanding of the local language can

[1] Silver, Marc. "If You Shouldn't Call It The Third World, What Should You Call It?" NPR. January 04, 2015.
[2] "Human Development Reports." | Human Development Reports. HDI
[3] "Human Development Reports." | Human Development Reports. IHDI
[4] "Human Development Reports." | Human Development Reports. Human Development
[5] "Human Development Reports." | Human Development Reports. 2016 Report.
[6] "Human Development Reports." | Human Development Reports. Human Development
[7] Tiessen, Rebecca. Learning and Volunteering Abroad for Development: Unpacking Host Organization and Volunteer Rationales. London: Routledge, Taylor & Francis Group, 2018.

provide a hindrance, further the idea of otherness and create separations. Contrastingly, by sharing the culture, a Malawi participant argued it dispelled myths and changed stereotypes challenging volunteers to fully understand the culture and provide the ability to be truly helpful. Furthermore, by mentoring staff the participants can interact in culturally appropriate ways. The volunteers do, however, have to change the western versions of business standards or personal walls individuals have built to help them understand the policies of the cultures. If this does not happen the cross-cultural learning begins to breakdown. She also warns of cliques. Sometimes, through foreigner isolation or natural human instinct, participants find friends who are like them, whether that is based on similar cultural backgrounds or based on interests. Tiessen encourages her readers to understand their personal comfort zone and then to be willing to get out of their comfort zone.

In Daniel Guttentag's article, "The Possible Negative Impacts of Volunteer Tourism," he expressed the following impacts; neglecting the locals' desires, lack of local involvement, hindering work progress, decrease in employment opportunities, completion of unsatisfactory work, volunteers' lack of skill, promoting dependency, reinforcement of the 'other' and rationalizations of poverty, promoting cultural changes, demonstration effect and the actions of short-term missionaries, constant re-separation anxiety and the addition of waste, pollution and litter. While there are positives for the volunteer and the local communities, such as; income for the locals and the organization, protections for the environment and wildlife, intercultural experience, globalization and increase in education and healthcare.8 Through the following case studies, some of the above negative and positive impacts are expressed through their work abroad.

CASE STUDIES

CARE International

CARE International puts a focus on the communities it serves. As an NPO, non-government organization (NGO) based out of Atlanta, GA CARE has been providing communities with humanitarian relief since the 1940's beginning with France after WWII. This community first approach is essential to minimizing the negative impacts on a community. By recruiting volunteers from the local community, they are able to limit the negative impacts while providing their services to the community.

Starting in 1994, CARE has worked in Ghana, West Africa, providing reproductive health education in the mining region. Today, they have developed programs that empower women to work in agriculture, partnerships with "local and civil society organisations, the government and the private sector."9 Through the promotion of equality the economy can grow by producing more jobs and thus more transactions with time. In their international work Women's Economic Empowerment Strategy, by encouraging everyone to work through agricultural systems the local economies can grow. This international relief agency produces a unique system of local and global action.10 Through the work with governments and international policies, CARE is able to measure and create a system that can empower large and small communities.11

Aim Higher Africa

Aim Higher Africa is a British-Ghana NPO charity working to enrich the education provided to children through all stages of their education and end youth unemployment by supporting and raising funds, this NPO is able to provide IT support in education and services to governments, institutions, and teachers and

[8] Guttentag, Daniel. (2009). The Possible Negative Impacts of Volunteer Tourism. International Journal of Tourism Research. 11. 537 - 551. 10.1002/jtr.727.

[9] Neilson, Matthew E., and Pamela L. Fuller. "The National Nonindigenous Aquatic Species Database." *Fact Sheet*, 2012. doi:10.3133/fs20123100.

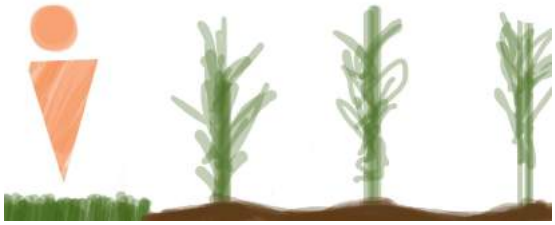
[10] "Womens-economic-empowerment;hr." *Human Rights Documents Online*. doi:10.1163/2210-7975_hrd-9927-3007.

[11] Careadmin. "Home." CARE. September 15, 2017. Accessed March 12, 2018.

directly to individual learners.12 By doing so, their vision is to create "entrepreneurship programs for unemployed youths in Africa to help them build scalable and sustainable businesses that help impoverished communities bridge the gap between poverty and prosperity through skills training."12

Some of their programs are 'The Ignite Series' and 'More than a Woman.' Peace Hyde, the founder of Aim Higher Africa, speaks about empowering the youth from varied economic backgrounds and the only person standing in their way is themselves. By engaging and empowering women to be more than a woman, the culture can begin to shift to "inspire" and "empower" everyone.

This organization is unique as they aim to "educate, inspire and empower"12 the young people of Ghana and West Africa to further themselves. In doing so, they create new opportunities for the younger generations. Through this education and empowerment methodology, they create new generations that will grow and further the economy. (More Info to come).



Volunteer Partnerships for West Africa

Volunteer Partnerships for West Africa (VPWA) is a non-profit working with global volunteers to better opportunities for the underprivileged through education, health, sanitation and sustainable development since 2007. Projects are picked based on the principles of the UN Global Compact. This program works with all ages, groups and individuals to extend the knowledge and services they have to better a community.13

Some of the project they offer for volunteers to work at are administration and management, education, health, poverty alleviation, humanitarian, environment and conservation, construction and development, and culture. By aligning their objectives up with the UN's Sustainable Development Goals they are aiming to move Ghana out of the 'underdeveloped' status and into the 'developing' status. They do so by providing young people and disadvantaged groups with a resource for positive change.

This grassroots organization that operates in the West African region operates with the interest of the community first. "Any fees paid by a volunteer go directly to support [the] placement (accommodation and food) and the projects that [are] work[ed] on."13 As the director and team welcome the volunteers in, new ideas and strategies are encouraged to develop a more efficient, sustainable system. Furthermore, the living arrangements are in the same compound as the program's office allowing for constant interaction, assistance and cultural learning.

Through this empowerment of local people education on equality the inspiration to create new ideas are spread throughout NPOs and the global community. Furthermore, the inclusive local involvement further expanse and encourages global growth. To design a

12 "Aim Higher Africa." Aim Higher Africa. December 10, 2017. Accessed May 18, 2018. http://aimhigherafrica.com/.

13 "Home." Volunteer Partnerships for West Africa. Accessed May 18, 2018. http://www.vpwa.org/.

program that works with these expectations, one must look at the community it is serving and as what are its needs and desires to grow.

INTERVIEW

Overview

With past knowledge of the active volunteer program Miami University offers, below are a list of questions to ask both the host community and the volunteers. As situations differed, additional or different questions were asked depending on the appropriateness. Conducting interviews individually or in small groups as to maintain the individuality of these questions and therefore their opinions. This will provide answers to questions posed above and go further into the impacts of voluntourism as a whole. These will be recorded with a camera or pen and paper to clearly document the individual's experiences.

Questions

Local Participants:

How do you like Miami University's Design + Build Studio volunteering for your community?

What are some of your favorite projects you have worked on with them? Why? Is there anything you would like to see changed in the future?

Have you worked or experienced other volunteers in your community? What program(s) were they with?

What did you appreciate from your experience with them? Would you have like to have seen differently with them?

Findings

Through the study abroad Ghana Design + Build Studio 2018, students traveled for eighteen days where they designed a maternity ward for the village of Abrafo-Odumase, Ghana, West Africa. Through this traveling and meeting with the chiefs' and the community members of Abrafo-Odumase students became accustomed to design traditions and customs within the region. This led to a design being selected by the chief and elders and built though an established partnership between local masons, carpenters and laborers and Miami University students and faculty. Miami University offers this program every other year, in partnership with a nearby village they address a need the village chief identifies.

Abrafo-Odumase is a village of around 3,000 people with the majority of its population being under 18 years old. They have two schools located in their village. They have a few churches and a mosque located on the main road. There is a community center located at the heart of the village with one story shared saying the two villages, Abrafo and Odumase were merged into one to have the Miami University students build the community center. Through a twenty-year long relationship, Miami University and the village of Abrafo-Odumase have found a system that is mutually beneficial.

Through interviews held with the local workers, it can be concluded that the service to Abrafo-Odumase is beneficial as it addresses current needs of the community and its people. While this is not the only work the workers have, they are fairly compensated for their time and energy poured into making a design become a reality.

Some of the negative impacts did protrude during this process. The students had to learn the techniques of the local workers hindered the working progress, while overall it was a successful build. The addition to waste, pollution and litter grew with the students' presence as the leadership of Miami University increased it through the choice of water bottles and dining selections. Lastly, there was a creation of separation anxiety between students and the local children. During recess and after school there were children who talked and played with university students. This interaction on how the village students played, learned and interacted taught university students about the culture and teachings of the village; however, there was the goodbye and all the students (village and university) wished for one more day before they had to leave.

It addressed other negative elements in a positive way. For instance, the work offered increased employment opportunities for works as well as being able to produce a community

needed building. Though a close interaction with the workers, students and workers diminished the idea of 'othering' by humanizing both sides. Through these humanizing efforts, connections were made to share cultures.

CONCLUSION

Through historical connections, it can be noted that the World Wars and the aftermath have played a large role in how we view global development today. By using the HDI provided by the UNDP it can be gather that countries considered to be the Third World are those with an HDI lower than 25%. With the help of NPOs, these statistics are on the rise. Through the work Miami University does in Abrafo-Odumase, Ghana, West Africa, with the Design + Build Studio, university students and local workers are able to design and build a community building that everyone can use. In 2018, they built a maternity ward where the village, and region took notice and promised to uphold the use of the building for future mothers and children.

Through this program and the case studies provided the following suggestions can be made for community impact projects like this:

Have a local facility to address community questions and concerns. This should be minimal and non-impactful to the local environment so as to minimize the cultural change that may occur. By inviting the locals to work or address concerns, it creates a dialogue that can help create future solutions. This should be sanctioned by the community authorities first and then approved by the community as a whole.

Address a need the community would like to solve. This includes large and small projects, as address in CARE International's work. They are able to solve problems through legislation and through local communications.

Minimize the environmental impact of the volunteer. By minimizing the environmental impacts, it minimizes the work the community being served will have to do to counter them. By providing usable sources of recycling or upcycling, communities can better counter the larger impact that is a global issue of the environment.

Maximize the cultural exchange while minimizing the cultural change. Through learning and teaching of culture, volunteers and local people are able to understand the needs and desires of one another better. To humanize the stigmas attached with different cultures a reduction in the idea of 'othering' and the idea of what poverty can create, while maximizing the importance to that individual. While minimizing the cultural change will maintain the importance of different cultural elements.

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Addendum: A reflection on this thesis.

Sara Musch
Miami University

THESIS PROCESS REFLECTION

This process unfolded in an unpredictable way following the research and site selection process. By developing a research paper first, it created a basis for volunteers to be integrated into the design process. This changed through the design process as the volunteers did not seem to fit with the requested market scheme. Based on this interview and system layout, the challenge shifted from designing for the volunteers and people of the village to truly designing for the stakeholders – the vendors and customers.

This shift can be seen in through the process for the first and second semesters in 2018/2019. By focusing on the stakeholders, the design began to unfold as an accessible market space that collects water for irrigation, and greywater systems. Furthermore, by integrating solar panels and a battery supply system will provide the village with more reliable access to power, especially during the dry season.

THESIS CRITIC REFLECTION

Kevin Hill, a critic from the final review, pointed out a flaw in the thesis. It was the process of creating a growing market scheme for the village of Abrafo-Odumase. He stated that this idea of wanting to create growth was a *western* idea. This was a continuous challenge for me and the professors would push to have their understanding of what a market offers (typically *western* in scale).

Furthermore, Andres Mignucci, address the conflicts of the strong linear path in the center while the organic creation of from radiates off this space. This can be addressed by integrating the same selection process on the secondary circulation systems.

CONCLUSION

This project was challenging to integrate appropriate design criteria for the region. I was continually challenged with the western design criteria I have learned, the practical yet innovative way to design for Abrafo-Odumase. Through the paper it reflects the idea that people should not impose or presume the needs of any community. In doing so this is a proposal I developed that acts as one potential design option for the village of Abrafo-Odumase upon the request of locals.

Process

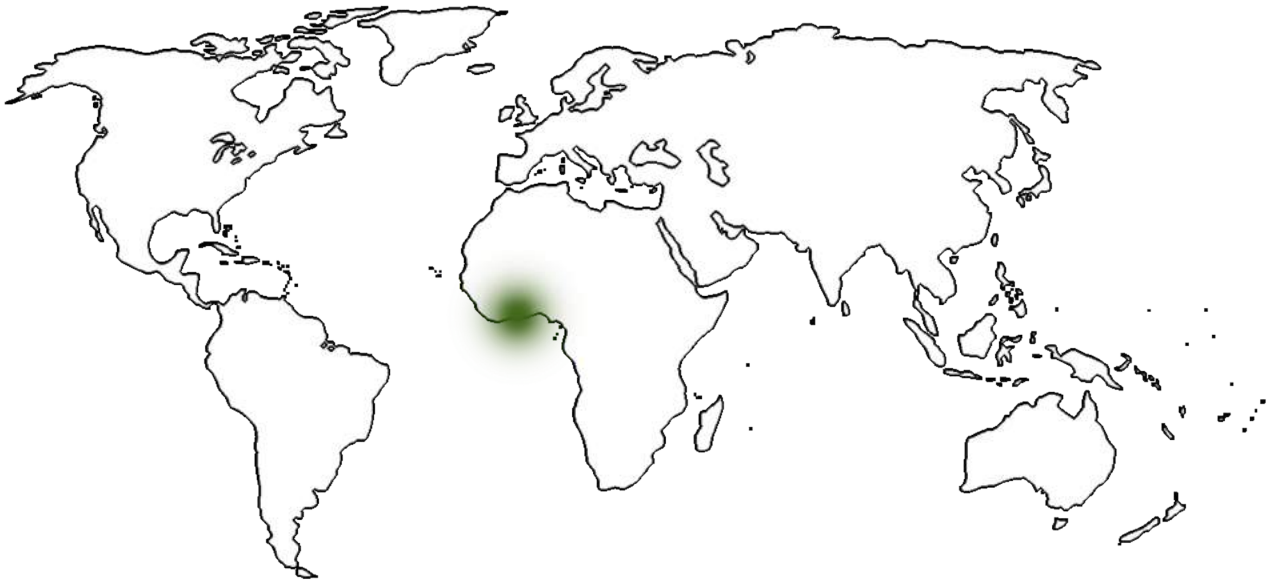
Content

Site Selection/Design Iterations 20
Material for Critique 1 40
Material for Critique 2 46
Material for Critique 3 52

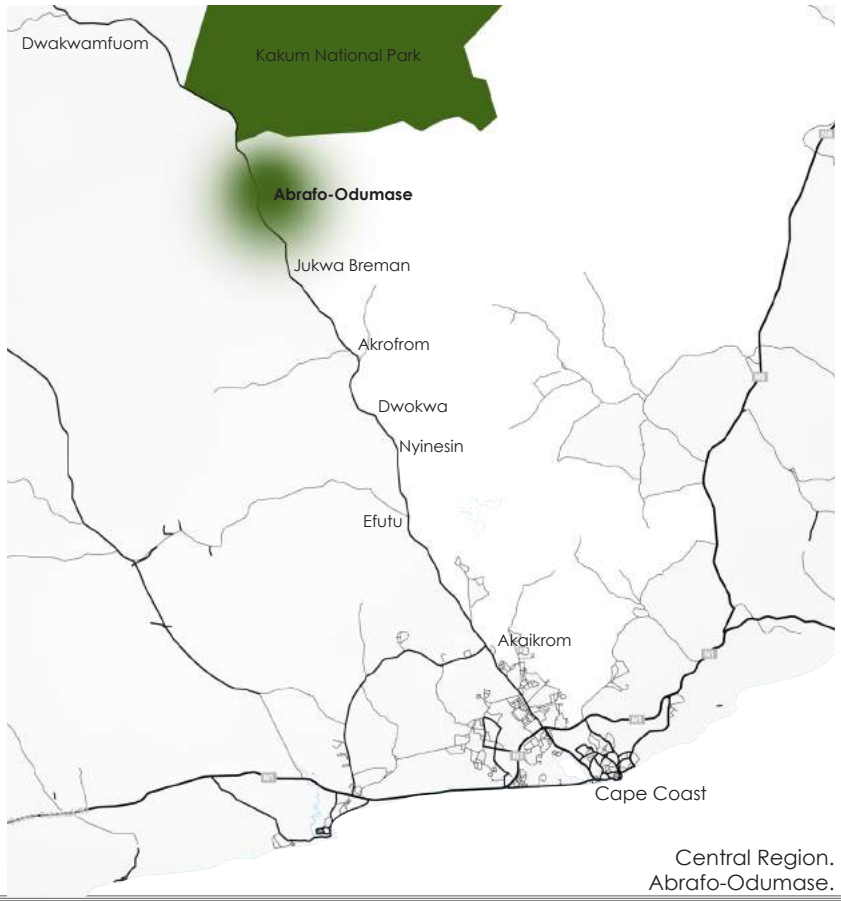
Volunteering Abroad

Presented by Sara M

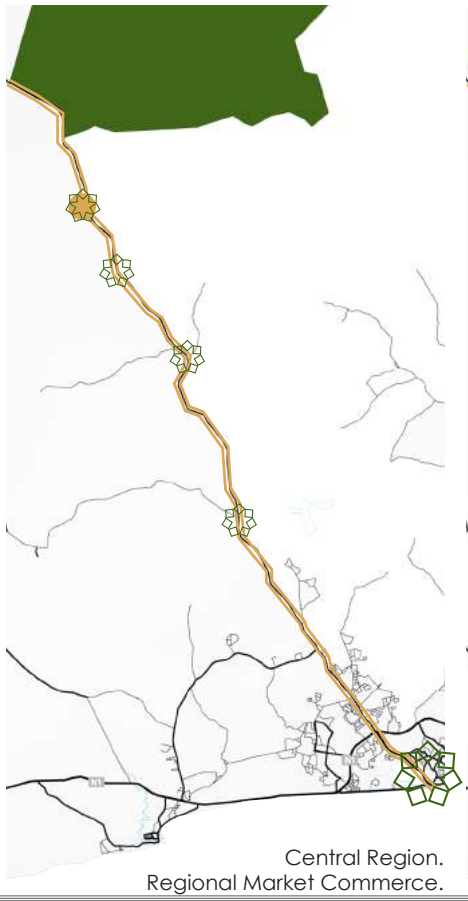
A collaboration with a community to engage in a mutual e
of knowledge with the intention of self-sufficiency.



World Map. Ghana.



Central Region.
Abrafo-Odumase.



Central Region.
Regional Market Commerce.

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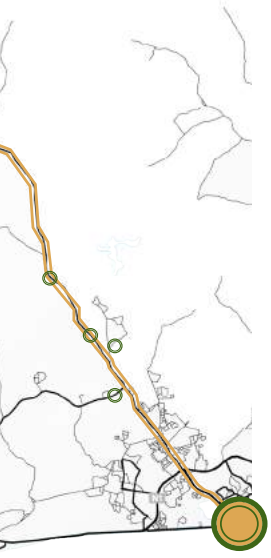
exchange

Ghana. Central Region.



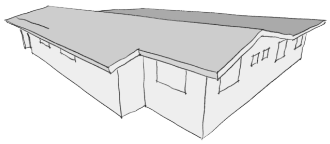
Central Region.
Hospitality + Tourism.

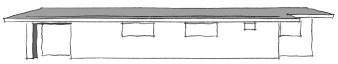
BUILDING TYPOLOGIES

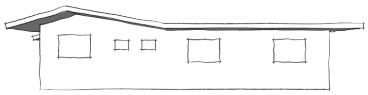
Abrafo - Odumase's building typology includes local materials such as handmade earthenware bricks, block form earthenware brick, plaster, wood planks, bamboo for columns, split bamboo and congregate metal roofing.

Housing

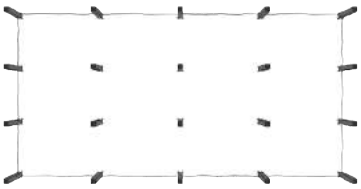
There are three many different style homes in Ghana, and Abrafo-Odumase. Homes typically have a main house for sleeping and living. Living and cooking occur outside. Depending on access to electricity and water, toilets can be in and out.

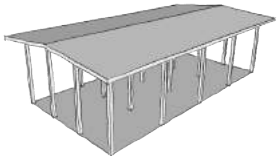


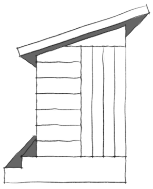


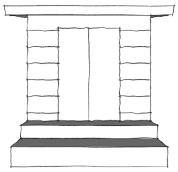


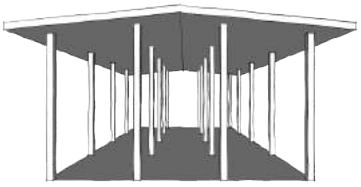
Large enclosed house.









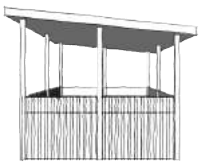


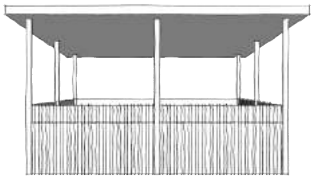
Shop

Palm Oil Production

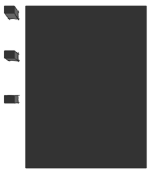
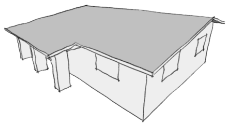
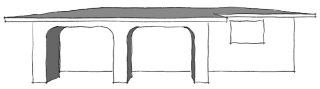
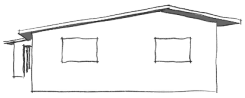
Business

Commerce occurs inside and outside the home. Many create their products within their home to be able to walk around the village with the product in a headpan. Depending on the aspirations of the individuals, they may be looking at building their own shop as shown in the middle row. The smaller ones are typically used as storage when closed and can be opened to and materials moved outside to create additional commerce space. These buildings typically use wood or bamboo items as the main material. The materials are constantly being replaced as they are not as durable against the climatic challenges.

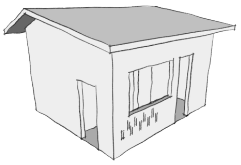
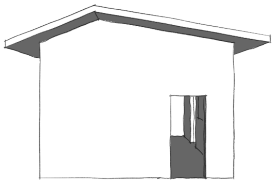
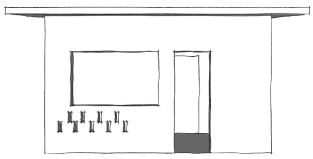




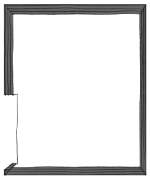
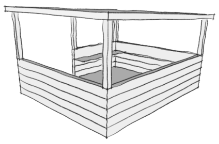
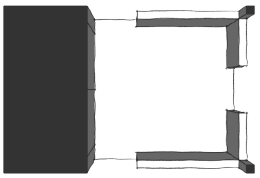
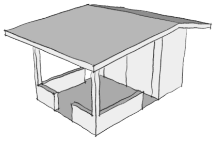
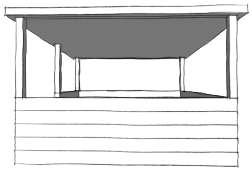
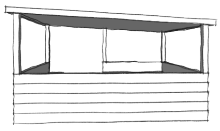
Business Storage (Open)

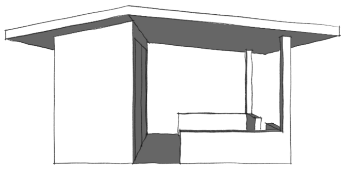
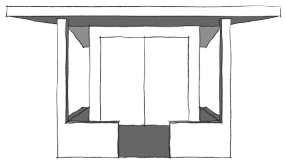
Medium house - courtyard in rear.

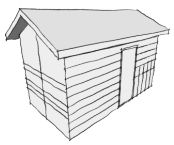
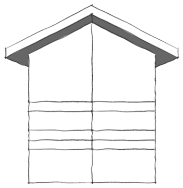
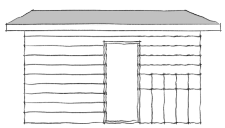
Small house - at center of courtyard.

Donut Production (sold via headpan)

Shop

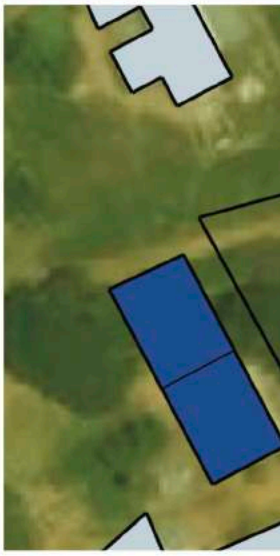
Business / Personal Storage (Closed)

Accessory Buildings

For private or mercantile storage, these structures can be completely enclosed, or open. Typically these are the least maintained buildings. By using the extra materials from building projects, these buildings begin to take form.

The most typicical elements of these structures include a simple roof with congregated metal and then a column system. There were not any buildings that used a finished exterior surface. Some were even a mix of bamboo, pure earth and wood planks. These buildings allow for a focus on other, more important buildings to be built and/or completed.

PROGRAMMING



Stingless Bee Center

Kakum National Park

Community Center

Catholic School

Market Site

Chief's Home

Public School

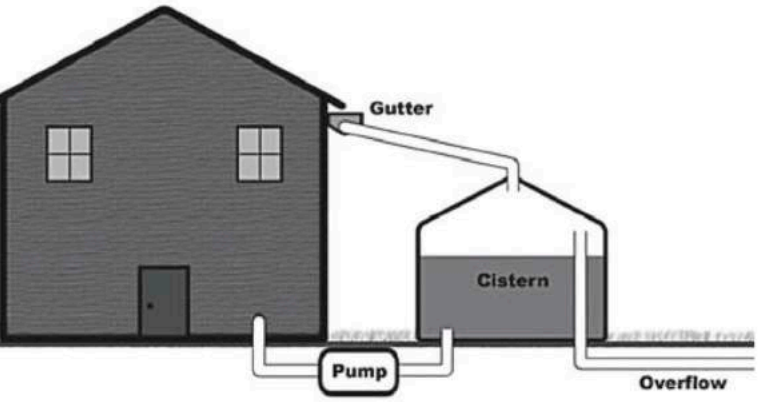
Hotel

Why Abrafo - Odumase for foreigners?

Abrafo-Odumase is in the middle of a developing hotel system to the south and an two established tourist attractions to the north. The stingless bee center is established by a former Canadian professor located. Kakum National park would pull the majority of the tourists, through the canopy walk and the overnight tree house.

Why Abrafo - Odumase for locals?

Abrafo-Odumase occupies a mid-northern region of the central region of Ghana. With Jukwa and Cape Coast providing priority market space for regional market space, Abrafo- Odumase can provide an additional space that not only provide commerce but also education for the region.



Program:

80% Market
- 50-70% Permanent Market Space
- 30-50% Flexible Market Space

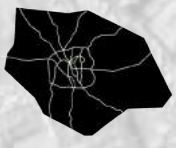
15% Community
- Learning Garden
- Gathering

5% Volunteer
- Office
- Living

KUMASI MARKET

GHANA

KUMASI

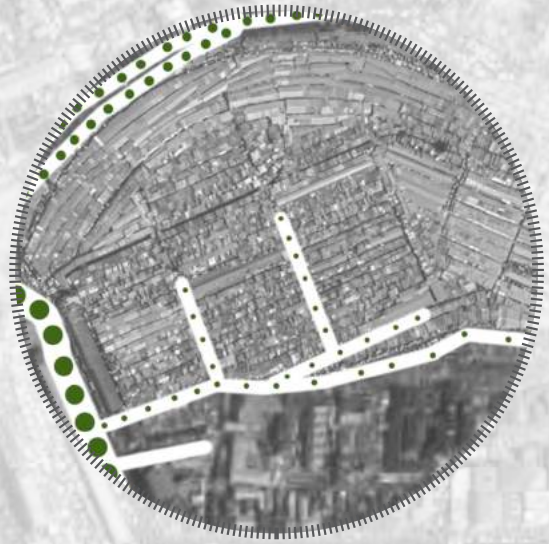


CENTRAL MARKET

KUMASI

KUMASI IS THE CAPITAL OF THE ASHANTI REGION, THE SECOND LARGEST CITY IN GHANA. IT IS NEAR LAKE BOSOMTWE IN THE RAIN FOREST REGION. IT IS KNOW AS THE "GARDEN CITY" BECAUSE OF THE DIVERSE SPECIES OF FLOWERS AND PLANTS THE ECONOMY OF KUMASI INCLUDES FINANCIAL, COMMERCIALS, POTTERY, CLOTHING, TEXTILE, AND TIMBER. THE COMMERCIAL DISTRICT IS A LARGE PORTION OF THE CITY. MANY PEOPLE TRAVEL GREAT DISTANCES TO SELL TIER GOODS THERE.

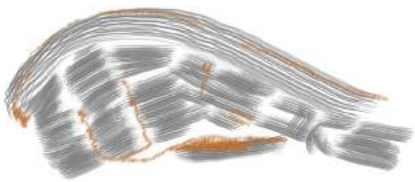
THE FIRST PEOPLE OF REGION SETTLED AT LAKE BOSOMTWE. UPON THE CREATION OF THE ASHANTI THEY FORMED THE CITY OF KUMASI WHICH TRANSLATES FROM THE NATIVE LANGUAGE OF TWI MEANING "UNDER THE KUM TREE". IN 1965, IT BECAME THE CAPITAL OF THE ASHANTI CONFEDERACY UNDER OSEI TUTU'S RULE. THE BRITISH FOUGHT THE ASHANTI IN 1874 IN THE THIRD ANGLO-ASHANTI WAR THAT LEAD TO THE DESTRUCTION OF HALF THE CITY AND THE PALACE OF THE KING.



KUMASI CENTRAL MARKET

THE KUMASI MARKET IS THE LARGEST MARKET IN WEST AFRICA. IT HAS OVER 45,000 STORES AND STALLS. IT IS ALSO KNOWN AS KEJETIA MARKET. IT IS AN OPEN AIR MARKET LOCATED AT THE CAPITAL THE ASHANTI. IT IS BORDERED TO THE NORTH BY THE KOMFO ANOKYE TEACHING HOSPITAL , TO THE SOUTH BY ADUM, A COMMERCIAL CENTER OF KUMASI. NEARLY ANYTHING ONE WISHES TO PURCHASE CAN BE FOUND IN THIS MARKET. IT RANGES FROM JEWELRY TO HANDCRAFTED GOODS, FOOD, ASHANTI KENTE CLOTH, FOOTWEAR, SPICES, GRAINS AND TOILETRIES. THE DENSITY OF THE MARKET MAKES IT IMPORTANT TO STAY CLOSE TO YOUR COMPANIONS.

THE MARKET IS KNOWN FOR ITS FABRICS AND CONNECTION TO THE TRADITIONS OF THE ORIGINAL TRIBES THAT UNITED INTO THE ASHANTI GROUP DURING THE IMPERIAL ERA. TO MAINTAIN ORDER THE ASHANTI ABSOLUTE MONARCHY AND KUMASI METROPOLITAN ASSEMBLY MANAGE AND ENFORCE THE MARKET AND THE SURROUNDING AREA. THIS IS TO ENSURE PEACE (IN STATING THIS, IT IS A VERY SAFE AND A NON POLICE STATE ENVIRONMENT). THERE ARE CAMERAS INSTALLED AROUND THE MARKET TO MAINTAIN SAFETY. THE MARKET IS PRONE TO FIRES AS IT IS SO OPEN, DENSE AND LAYERED.



COMMUNITY CIRCULATION

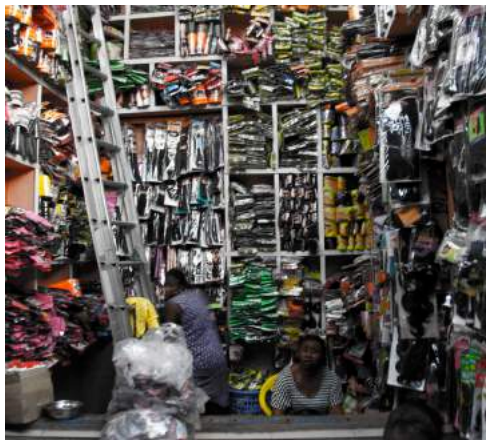
THE MARKET COMMUNITY CONSISTS OF FORMALIZED & INFORMALIZED STALLS (SHOWN IN GRAY). THERE ARE ADDITIONAL FREESTANDING STALLS IN THE COLORED SECTIONS.

FUNCTION

THE MASS OF THE MARKET IS CONTROLLED BY THE COMMERCE. THERE ARE SURROUNDING STRUCTURES BUILT ON TOP OF EACH OTHER HOUSE THE MANUFACTURING EFFORTS FOR THE MARKET.

VEHICULAR CIRCULATION

AS IT LOCATED AT THE CENTER OF THE CITY. THE MAIN ROAD IT TO THE WEST AND SUPPLY ROUTES INTO THE MARKET.



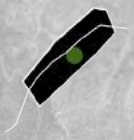
NEW MARKET

THIS IS THE DESIGN OF THE NEW MARKET ACROSS THE STREET IS TO REPLACE THE CURRENT MARKET TO CREATE A FORMALIZED AND SAFER MARKET.

LIBRARY OF MUYINGA

BURUNDI

MUYINGA



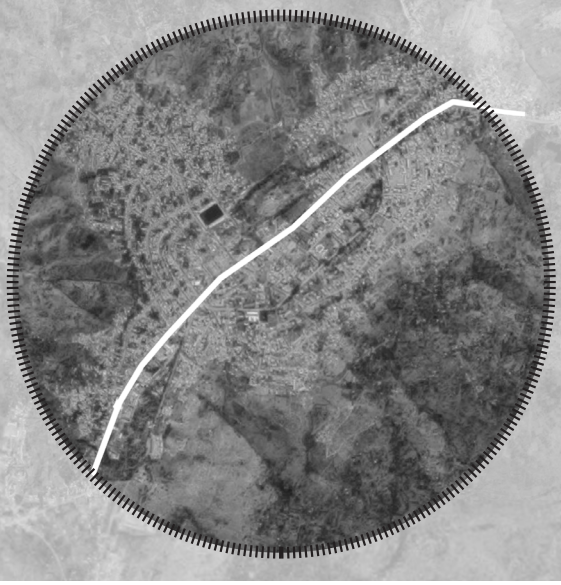
LIBRARY

BURUNDI

MUYINGA IS LOCATED IN BURUNDI. IT IS THE CAPITAL OF MUYINGA PROVINCE. IT HAS A POPULATION OF 50,000. THE COUNTRY SIDE HAS THE 15TH HIGHEST UNEMPLOYMENT RATES IN THE WORLD. IN 2011, THE INFLATION RATE ROSE TO UNSUSTAINABLE NUMBERS MAKING FOOD, FUEL, WATER AND OTHER GOODS. THIS INCREASED THE COUNTRIES DEPENDENCY ON AID PROGRAMS FOR BASIC SURVIVAL NEEDS.

THERE ARE A NUMBER OF DANGERS TO THE HOMELESS POPULATION. DANGERS INCLUDE GANGES, EXPOSURE, SERIOUS HEALTH HAZARDS AND RAIN. CHILDREN HAVE EVEN BEEN RECRUITED FOR COMBATANT GROUPED FROM THE DEMOCRATIC REPUBLIC OF THE CONGO. FAMILY STABILITY IS CHALLENGED DAILY.

THERE ARE NGOS LOOKING TO BETTER THE LIVES THE FAMILY AND CHILDREN BY INTEGRATING EDUCATION AND DAY-CARE INTO THE. MUYINGA SPECIFICALLY HAS SOS-USA WORKING FOR THEM TO CREATE THESE YOUTH PROGRAMS TO MAKE TRANSITION INTO INDEPENDENT ADULTHOOD EASIER.



LIBRARY OF MUYINGA

THIS LIBRARY WAS DESIGNED BY BC ARCHITECTS OUT OF BELGIUM IN 2012. IT IS THE FIRST LIBRARY OF MUYINGA AND IT PROVIDES AN INCLUSIVE EDUCATION FOR ALL STUDENTS OF THE CITY. IT USES EARTH BLOCKS, AN OPEN STRUCTURE MODEL, SOCIALLY AND ENVIRONMENTALLY RESPONSIBLE METHODS OF DESIGN AND BUILD.

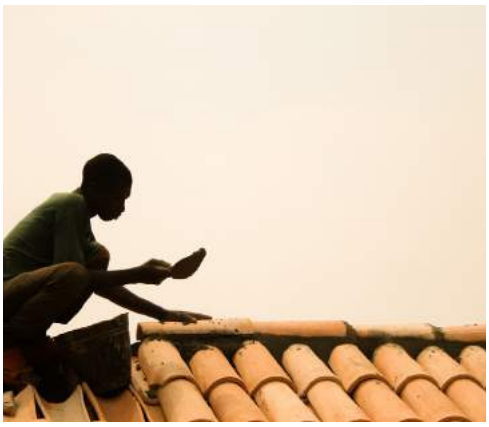
THE DESIGN WAS BASED ON A TWO MONTH FIELD WORK OF THE REGION AND SURROUNDING PROVINCES. THIS ALLOWED THE DESIGNERS TO INCORPORATE LOCAL MATERIALS, TECHNIQUE AND TYPOLOGIES. THE "HALLWAY PORCH" IS MOST NOTABLE IN BURUNDIAN TRADITIONAL HOUSING TO PROTECT FROM THE SUN AND RAIN. THE DOORS ACT AS A SIGNAL TO THE STREET TO WHETHER THE LIBRARY IS OPEN OR CLOSED.

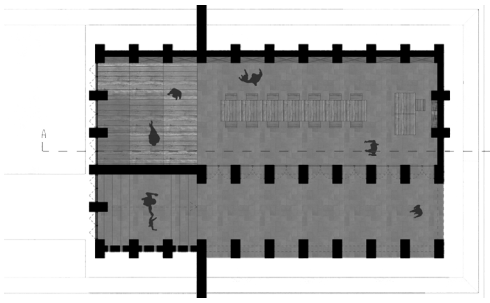
THIS WAS CO-DESIGNED WITH THE COMMUNITY AND THE LOCAL NGO. THROUGH THE HEAVINESS OF THE ROOF TILE, THE ESSENCE OF THE BUILDING TOOK FORM AND CREATED A LOGICAL STRUCTURAL SYSTEM OF BUTTRESSES.

THE INCLUSIVE PATH TOOK FRAME BASED FROM THE ORAL EXCHANGES OF TRADITIONALLY STORIES. TO INCLUDE THE DEAF, MUYINGA PUT AN EFFORT INTO PROVIDING A FUTURE OF FOR THESE STUDENTS. THE LIBRARY IS RUN AND ORGANIZED BY A BOARD CONSISTING OF LOCALS.

BUILDING TECHNIQUES

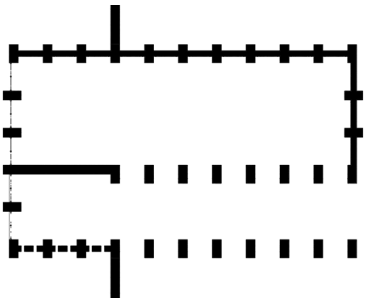
BC ARCHITECTS WORKED WITH THE COMMUNITY LEADERS AND WORKERS TO BUILD THIS LIBRARY FOR MUYINGA. THEY WORKED WITH STUDENTS AND VOLUNTEERS FROM OUTSIDE THE COMMUNITY AS WELL. LOCAL BUILDING TECHNIQUES WERE USED. EARTH-WARE BRICKS (BAKED AND UNBAKED). LOCALLY MADE ROOFING TILES.

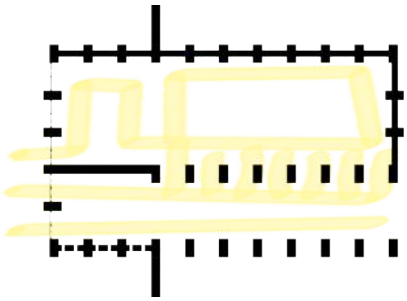


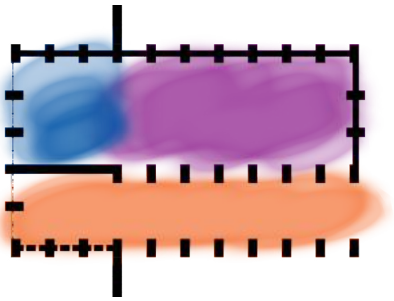


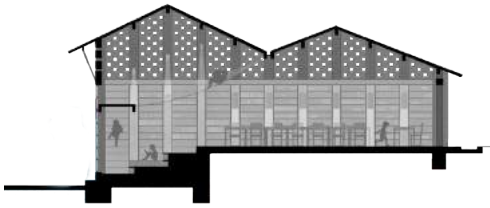
FLOOR PLAN

THE STRUCTURE OF IS SIGNIFICANT. USING AVAILABLE MATERIALS AND TECHNIQUES THE STRUCTURE CAN INTEGRATE LIGHT AND VENTILATION INTO IT. IT INTEGRATES TRADITIONAL HOMES LAYOUT OF THE HALLWAY. THIS IS NOT SPECIFIC TO LIBRARY DESIGN.



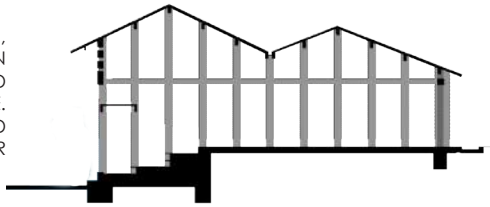


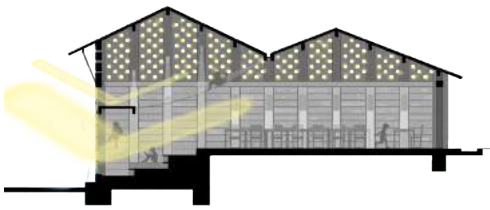


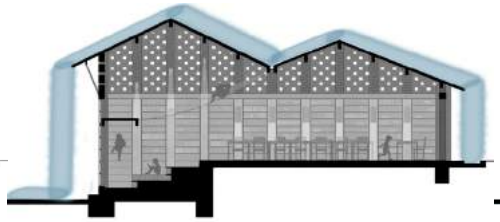


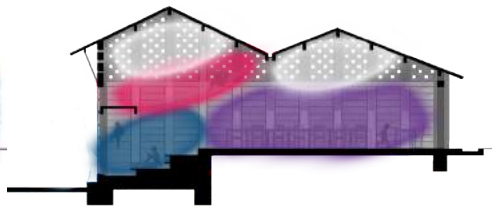
SECTION

THESE SECTIONS ILLUSTRATE THE STRUCTURES, VENTILATION AND EXPECTATIONS FOR THE REGION AS BUILDING MATERIAL AVAILABLE OFFER LIMITED STRUCTURAL OPTIONS, AND ELECTRICITY IS UNRELIABLE. BY CREATING A DOUBLE VOLUME A VENTILATION GRID WAS CREATED WITH THE BRICK TO ALLOW FOR AIR MOVEMENT AND NATURAL LIGHT.





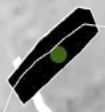




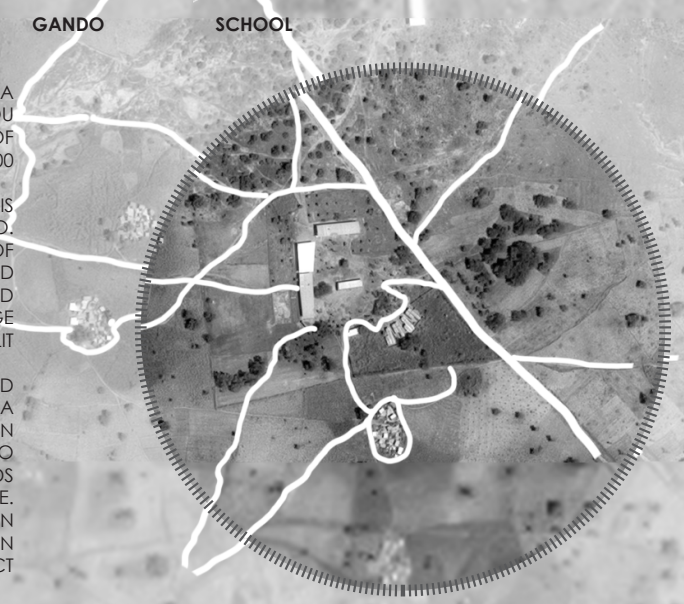
GANDO PRIMARY SCHOOL

BURKINA FASO

GANDO



SCHOOL



GANDO

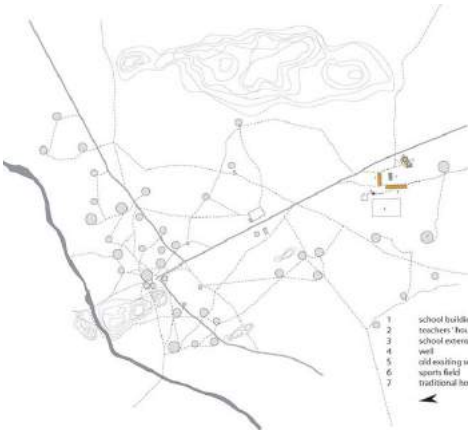
GANDO IS A VILLAGE IN BURKINA FASO. IT IS PART OF THE BOULGOU PROVINCE AND THE DEPARTMENT OF TENKODOGO. IT HAS AROUND 2500 RESIDENCE.

THE ARCHITECT, DIEBEDO FRANCIS KERE IS ORIGINALLY FROM GANDO. HE DESCRIBES HIS EXPERIENCE OF GROWING UP AS CHALLENGING AND HAVING FEW RESOURCES. HE TRAVELED NEARLY 25 MILES TO THE NEXT VILLAGE TO ATTEND SCHOOL IN A POORLY LIT AND VENTILATED BUILDING.

HIS EXPERIENCES AS A CHILD INFLUENCED HIS CAREER PATH A INTO ARCHITECTURE. HE STUDIED IN GERMANY, WHERE HE DECIDED TO REINVEST HIS KNOWLEDGE TOWARDS A NEW SCHOOL IN HIS HOME VILLAGE. HE DESIGNED TO CREATE HIS OWN FOUNDATIONS TRANSLATED TO MEAN BRICKS FOR GANDO, TO CONSTRUCT HIS FIRST BUILDING.

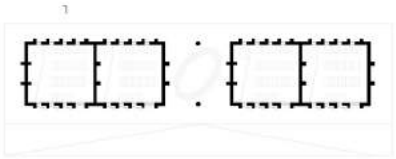
GANDO PRIMARY SCHOOL

"THE DESIGN FOR THE PRIMARY SCHOOL EVOLVED FROM A LENGTHY LIST OF PARAMETERS INCLUDING COST, CLIMATE, RESOURCE AVAILABILITY, AND CONSTRUCTION FEASIBILITY. THE SUCCESS OF THE PROJECT RELIED ON BOTH EMBRACING AND NEGATING THESE CONSTRAINTS. IN ORDER TO MAXIMIZE RESULTS WITH THE MINIMAL RESOURCES AVAILABLE, A CLAY/MUD HYBRID CONSTRUCTION WAS PRIMARILY USED. CLAY IS ABUNDANTLY AVAILABLE IN THE REGION, AND IS TRADITIONALLY USED IN THE CONSTRUCTION OF HOUSING. THESE TRADITIONAL CLAY-BUILDING TECHNIQUES WERE MODIFIED AND MODERNIZED IN ORDER TO CREATE A MORE STRUCTURALLY ROBUST CONSTRUCTION IN THE FORM OF BRICKS. THE CLAY BRICKS HAVE THE ADDED ADVANTAGE OF BEING CHEAP, EASY TO PRODUCE, AND ALSO PROVIDING THERMAL PROTECTION AGAINST THE HOT CLIMATE. DESPITE THEIR DURABILITY, HOWEVER, THE WALLS MUST STILL BE PROTECTED FROM DAMAGING RAINS WITH A LARGE OVERHANGING TIN ROOF. MANY HOUSES IN BURKINA FASO HAVE CORRUGATED METAL ROOFS WHICH ABSORB THE HEAT FROM THE SUN, MAKING THE INTERIOR LIVING SPACE INTOLERABLY HOT." - ARCHDAILY.COM



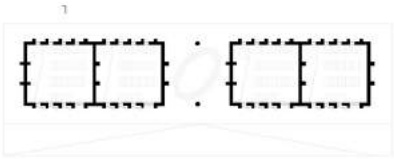
BUILDING TECHNIQUES

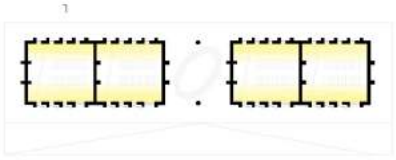
BC ARCHITECTS WORKED WITH THE COMMUNITY LEADERS AND WORKERS TO BUILD THIS LIBRARY FOR MUYINGA. THEY WORKED WITH STUDENTS AND VOLUNTEERS FROM OUTSIDE THE COMMUNITY AS WELL. LOCAL BUILDING TECHNIQUES WERE USED. EARTH-WARE BRICKS (BAKED AND UNBAKED). LOCALLY MADE ROOFING TILES.

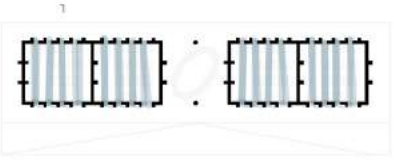


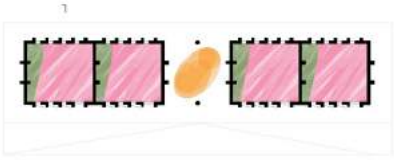
FLOOR PLAN

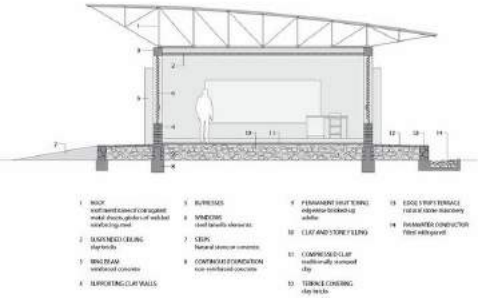
THE STRUCTURE OF IS SIGNIFICANT. USING AVAILABLE MATERIALS AND TECHNIQUES THE STRUCTURE CAN INTEGRATE LIGHT AND VENTILATION INTO IT. IT INTEGRATES TRADITIONAL HOMES LAYOUT OF THE HALLWAY. THIS IS NOT SPECIFIC TO LIBRARY DESIGN.





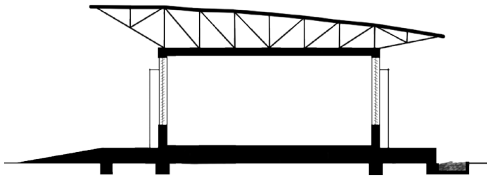


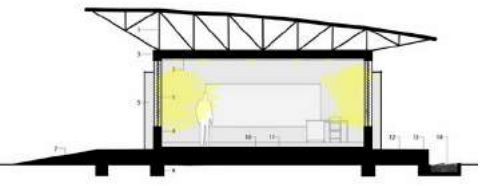


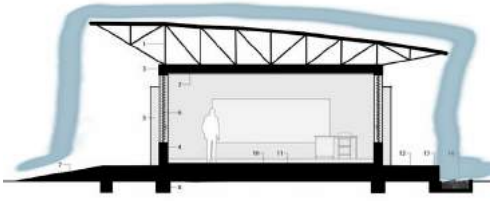


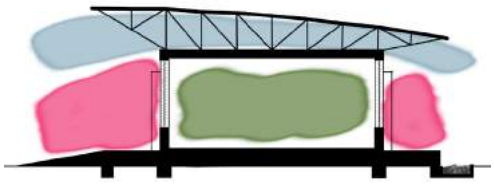
SECTION

THESE SECTIONS ILLUSTRATE THE STRUCTURES, VENTILATION AND EXPECTATIONS FOR THE REGION AS BUILDING MATERIAL AVAILABLE OFFER LIMITED STRUCTURAL OPTIONS, AND ELECTRICITY IS UNRELIABLE. BY CREATING A DOUBLE VOLUME A VENTILATION GRID WAS CREATED WITH THE BRICK TO ALLOW FOR AIR MOVEMENT AND NATURAL LIGHT.



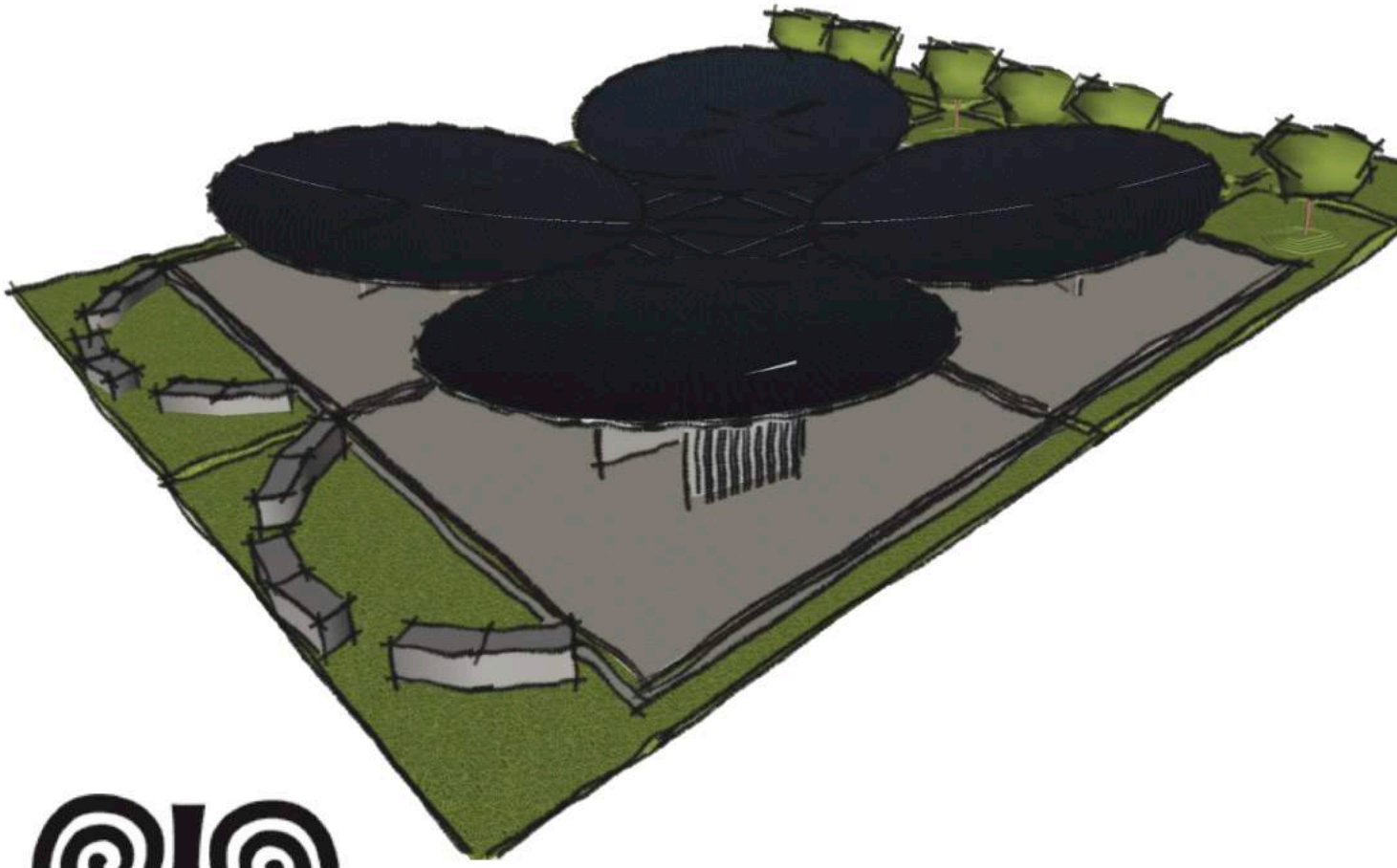






DWENNIMMEN

HUMILITY AND STRENGTH



ADINKRA SYMBOLS

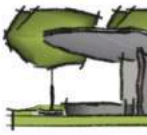
ADINKRA SYMBOLS REPRESENT CONCEPTS OR APHORISMS. THEY CAN BE FOUND ON FABRICS, POTTERY AND INTEGRATED INTO BUILDING DESIGNS. THE *DWENNIMMEN* SYMBOL SHOWN TO THE LEFT ILLUSTRATES ONE THAT MEANS HUMILITY AND STRENGTH. THIS MARKET IS SUPPOSE TO ILLUSTRATE JUST THAT TO THE COMMUNITY AND NETWORK CREATED BY THE MARKET. BY BRINING STRENGTH TO THE COMMUNITY, THE PEOPLE WILL BE MORE STABLE IN THEIR CAREERS AND FUTURE ENDEAVORS.

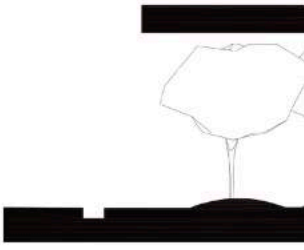
CONCEPT

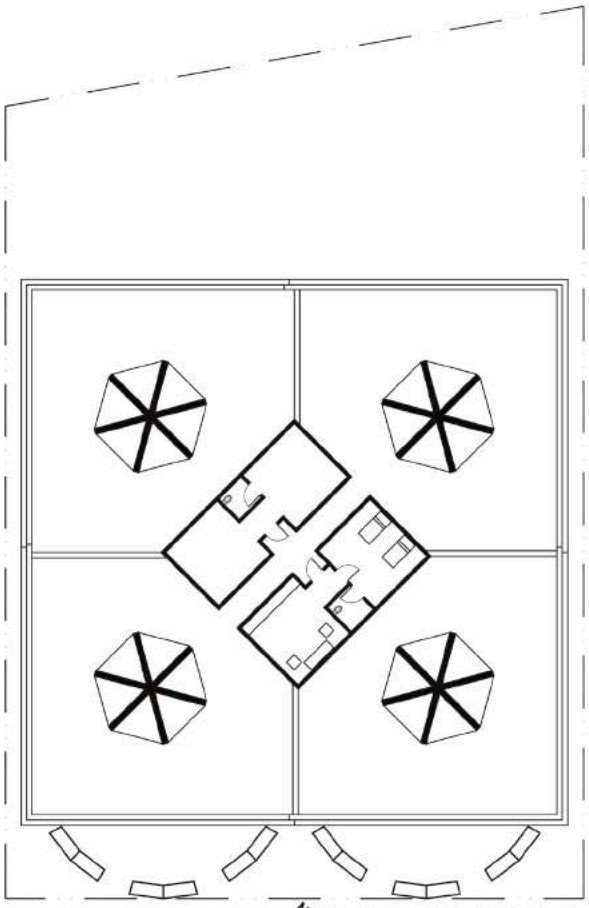
BY INTEGRATING FLEXIBLE MARKET SPACE IN THE FRONT BY THE ROAD AND PERMANENT MARKET STALLS THAT ARE SHELTERED, VENDORS ARE ABLE TO SELL THERE GOODS TO THE PEOPLE OF ABRAFO-ODUMASE. THESE FLEXIBLE MAKRET SPACES CAN BE PULLED 'INSIDE' WHEN NOT IN USE, ALLOWING SEATING FOR COSTOMERS AND COMMUNITY MEMBERS TO OCCUPY THE SPACE.

FURTHERMORE, BY INTEGRATING THE OFFICE SPACE AND VOLUNTEER RESIDENCE INTO THE CENTER, THE WATERSHED CAN BE COLLECTED AND FILTERED THROUGH A SEPTIC SYSTEM.

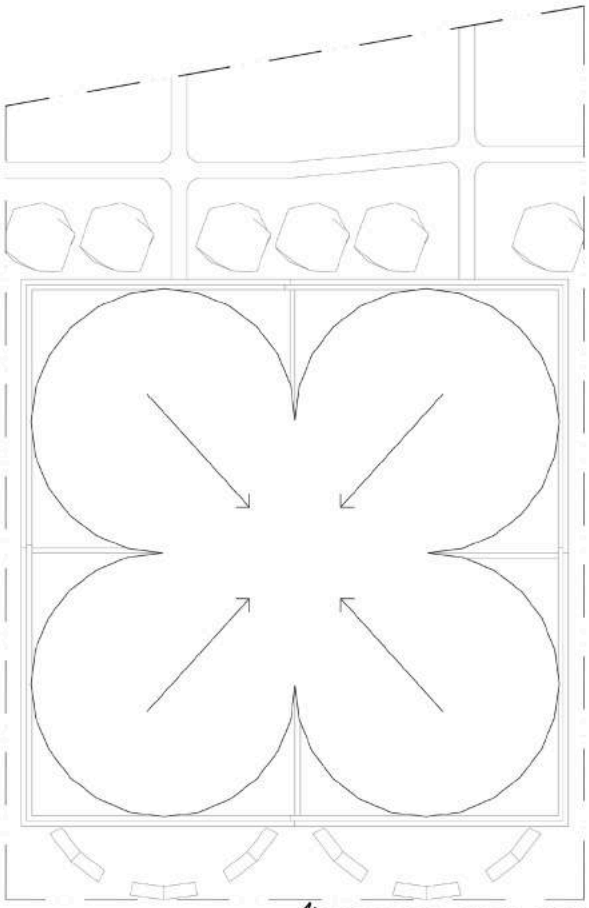
THE CENTER CUBE WILL ALSO ALLOW FOR EDUCATIONAL WALL SPACE. THROUGH THE SYSTEMS PROVIDED IN THIS BUILDING (SOLAR, WATER COLLECTION, WATER RUNOFF, VENTILATION AND AGRICULTURE) RESIDENTS CAN LEARN THROUGH THE WALLS AND THE INTERACTIVE GARDEN BETWEEN THE CLINIC AND MARKET.



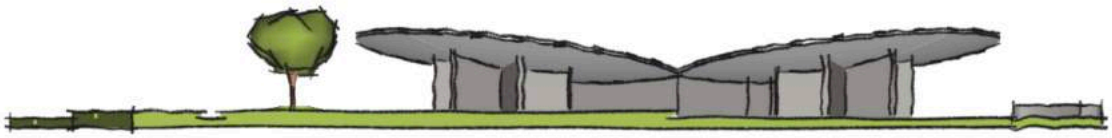




FLOOR PLAN 1/16" :1'-0"

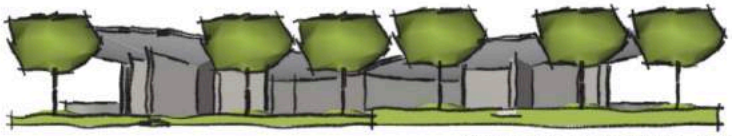


ROOF PLAN 1/16" :1'-0"



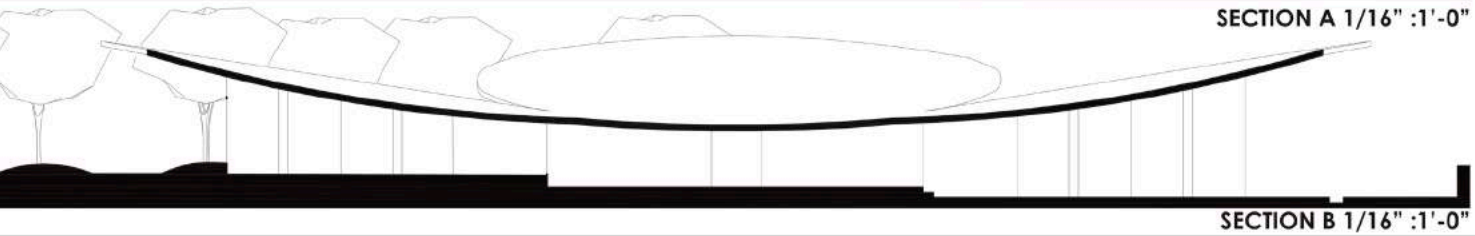
N ELEVATION 1/16" :1'-0"

E ELEVATION 1/16" :1'-0"



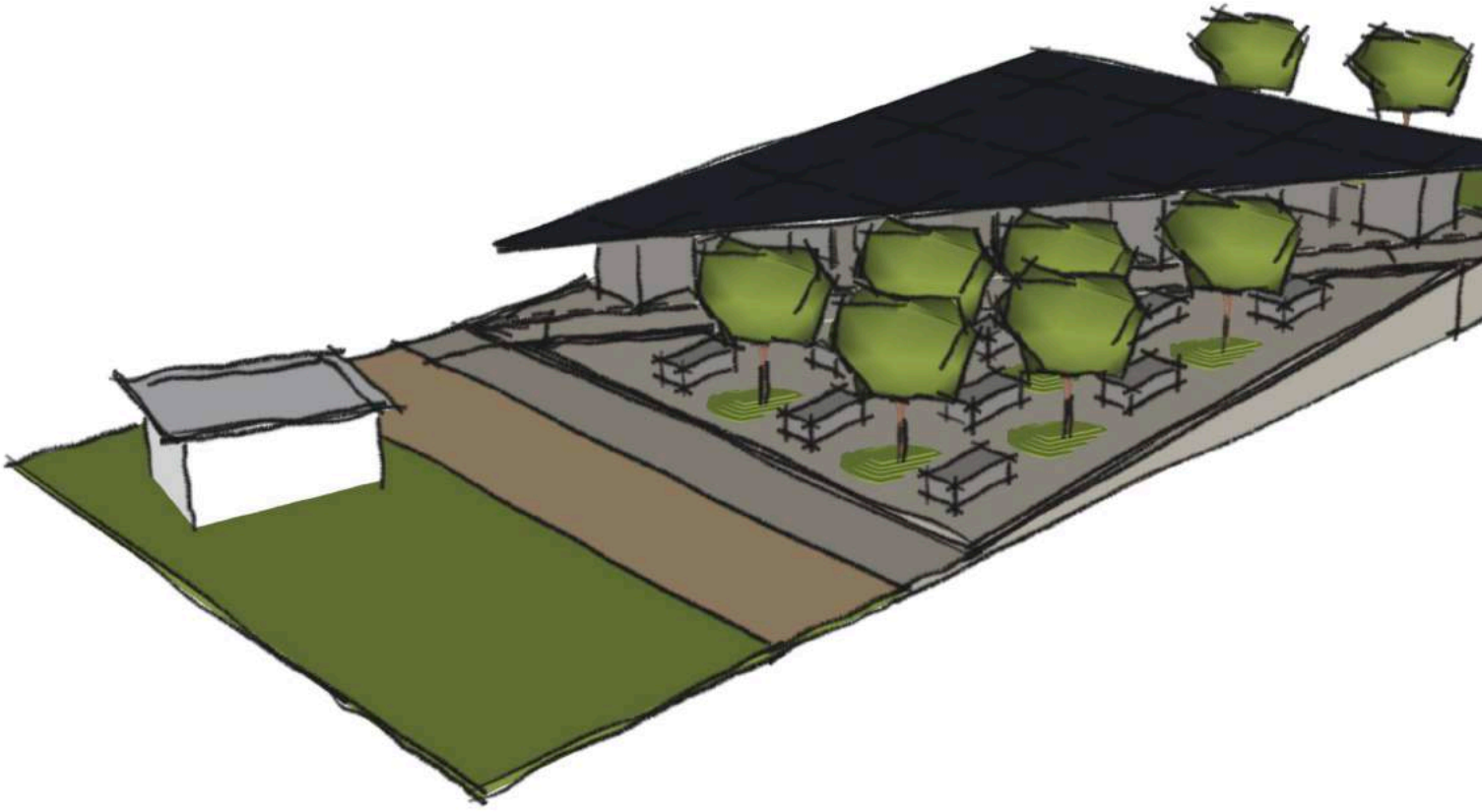
W ELEVATION 1/16" :1'-0"

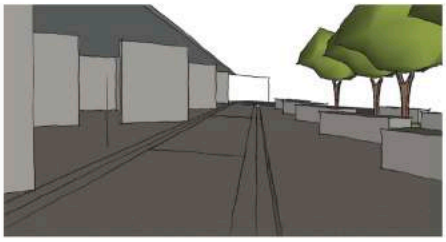
SECTION A 1/16" :1'-0"



SECTION B 1/16" :1'-0"

CONNECTIVITY

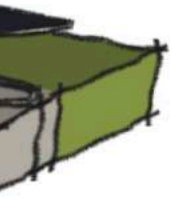


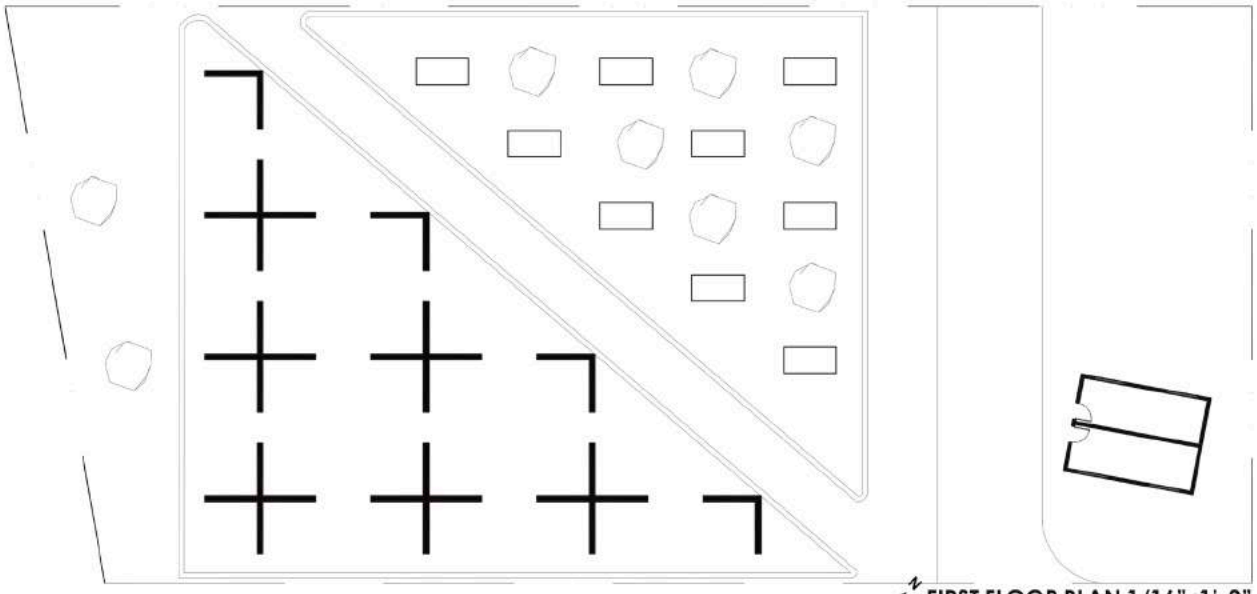


CONCEPT

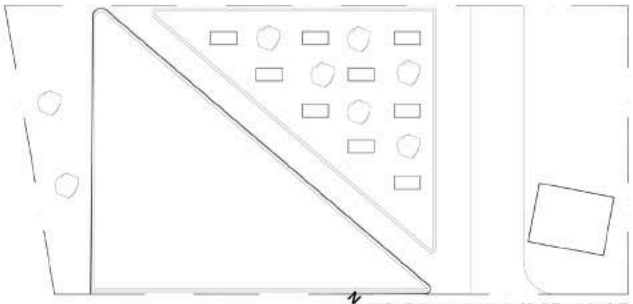
THE FLEXIBLE MARKET SPACE CONNECTS WITH THE COMMUNITY SPACE THAT LEADS UP THE HILL TO THE CLINIC AND SCHOOL. THIS UNIQUE CONCEPT ALLOWS FOR A GARDEN AND A QUIET SPACE FOR THE CLINIC AND MATERNITY WARD TO THE NORTH WEST AND RESIDENCE OF THE VOLUNTEERS. FURTHERMORE THIS PLAN ALLOTS 36 PERMEATE MARKET SPACE AND AN OFFICE AT THE LOWER PORTION.

THROUGH THE USE OF A SEPARATE, DETACHED BUILDING FOR MARKET AND VOLUNTEER LIVING, IT PROVIDES A CENTRAL FOCUS ON THE COMMUNITY AND THE ECONOMIC ENCOURAGEMENTS. FURTHERMORE, THROUGH A CONNECTION PIECE BETWEEN, THE COMMUNITY HONE THE USE OF THE TOURISM THAT ALREADY TRANSITS THROUGH THE VILLAGE FURTHER AND ALLOW FOR ADDITIONAL ECONOMIC ENDEAVORS TO OCCUR.

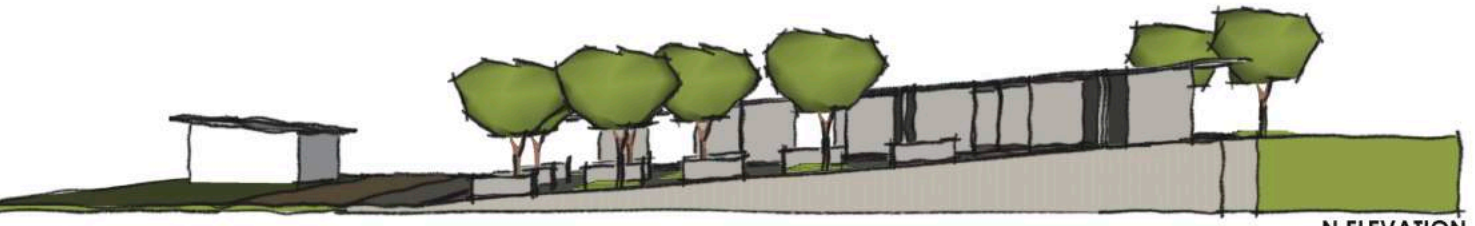




FIRST FLOOR PLAN 1/16" :1'-0"



ROOF PLAN 1/32" :1'-0"



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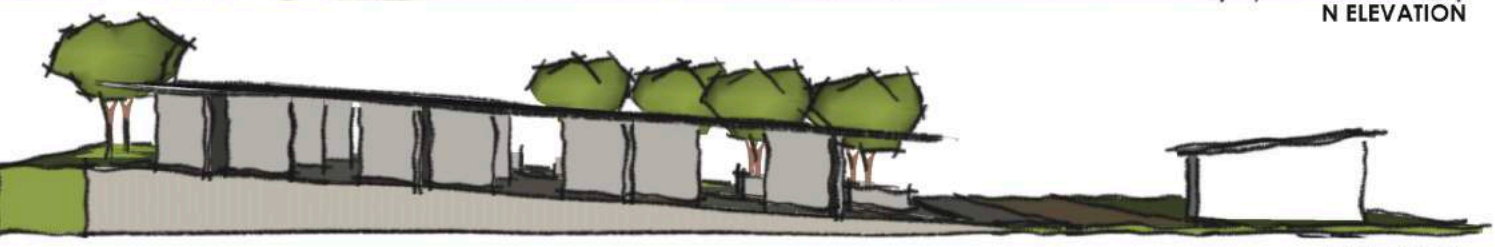
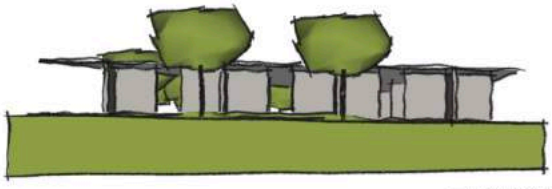


S ELEVATION

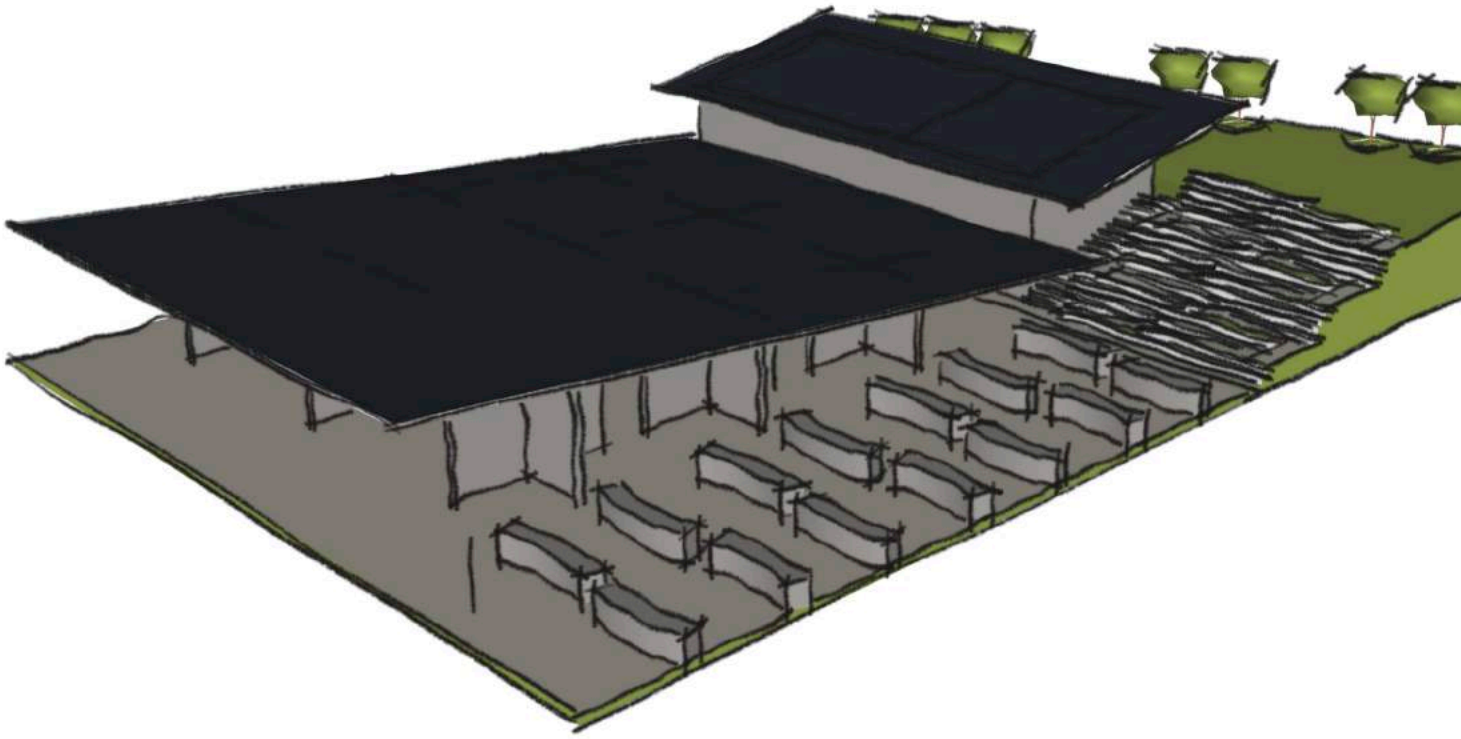
E ELEVATION

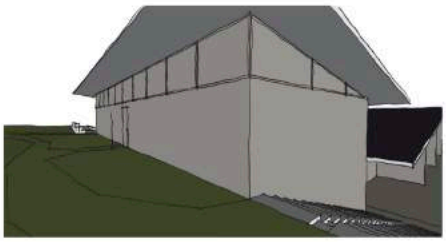


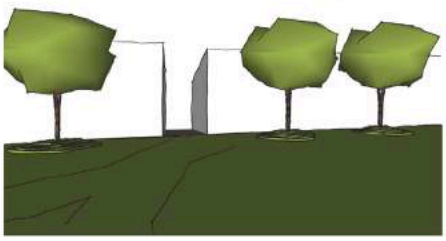
W ELEVATION

INTEGRATION

LAND, PEOPLE, KNOWLEDGE



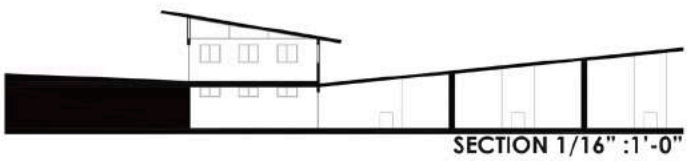




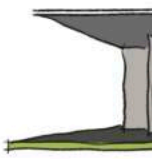
CONCEPT

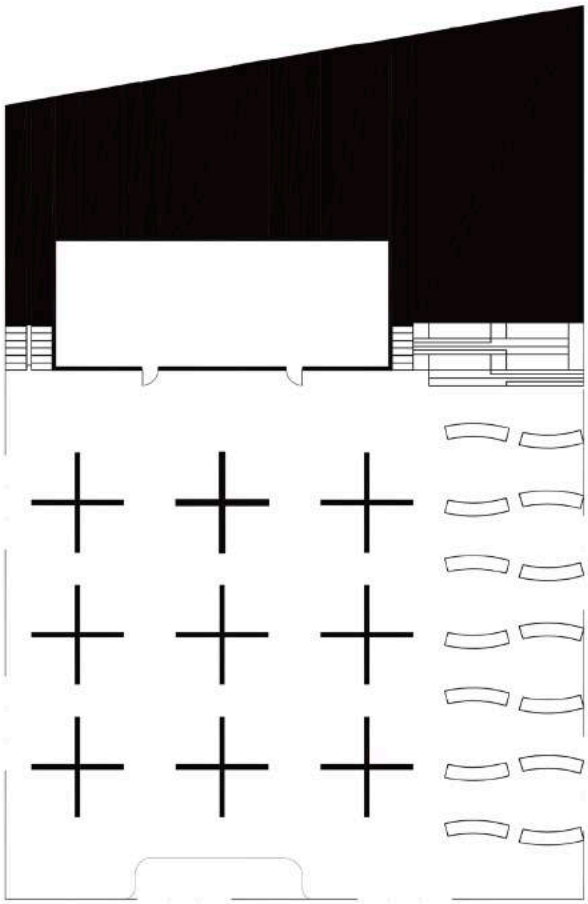
THE FLEXIBLE MARKET SPACE INTEGRATES WITH COMMUNITY SPACE THAT LEADS UP THE HILL TO THE CLINIC AND SCHOOL. THIS UNIQUE CONCEPT ALLOWS FOR A GARDEN AND A QUIET SPACE FOR THE CLINIC AND MATERNITY WARD TO THE NORTH WEST AND RESIDENCE OF THE VOLUNTEERS. FURTHERMORE THIS PLAN ALLOTS 36 PERMEATE MARKET SPACE AND AN OFFICE AT THE LOWER PORTION.

BY PROVIDING A TWO STORY BUILDING, SPACE FOR A MARKET OFFICE AND HOUSING FOR VOLUNTEERS CAN BE MORE ADEQUATELY SPACED FOR THE USERS. ADDITIONALLY, THE SOLAR COLLECTION, WATER, AND AGRICULTURAL SYSTEMS WILL BE OPTIMIZED FOR THE COMMUNITY TO LEARN FROM.



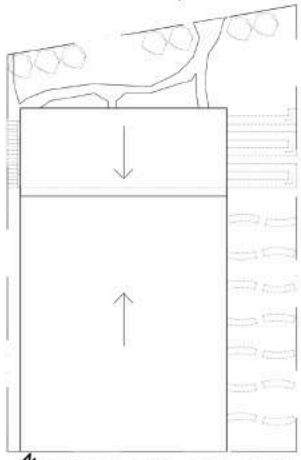
SECTION 1/16" :1'-0"



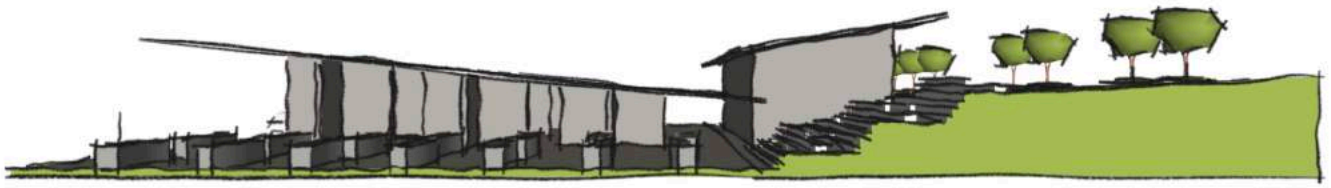


FIRST FLOOR PLAN 1/16" :1'-0"

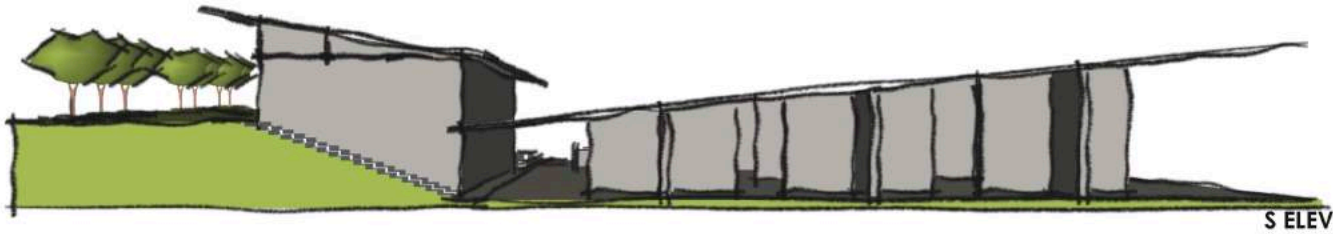
SECOND FLOOR PLAN 1/16" :1'-0"



ROOF PLAN 1/32" :1'-0"



N ELEVATION



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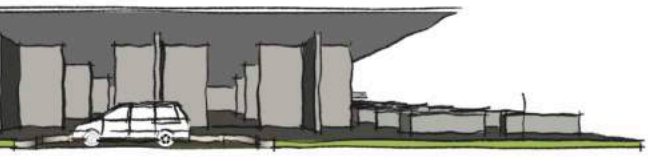

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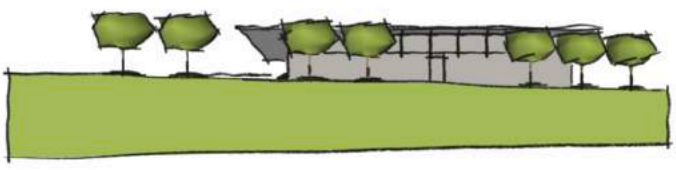
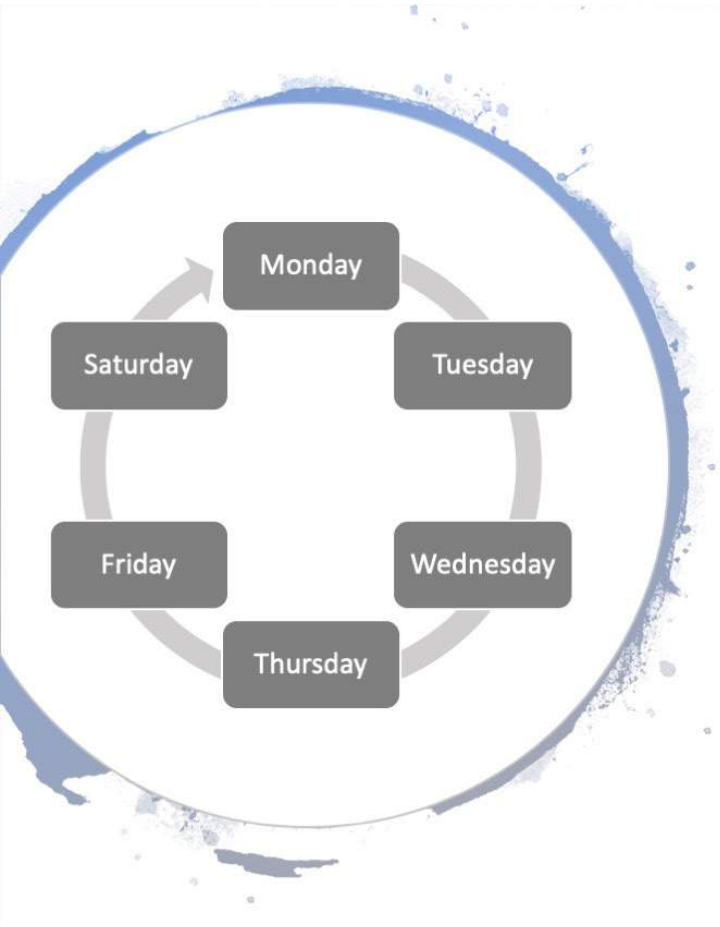


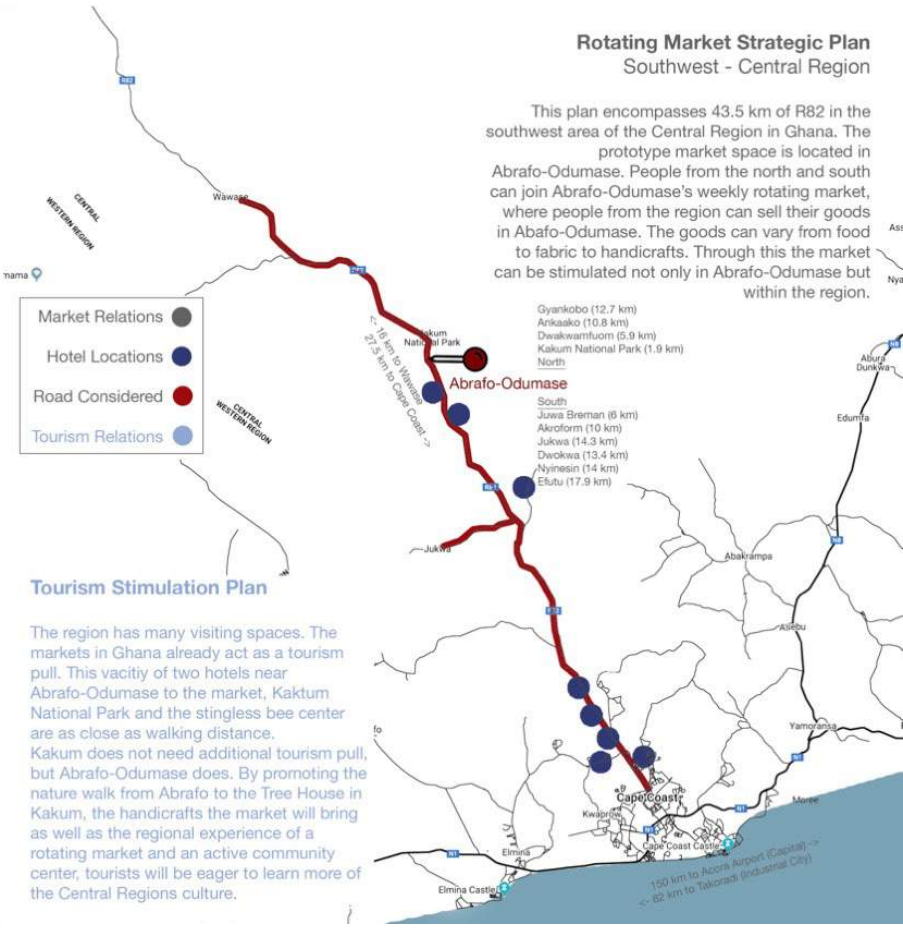
W ELEVATION

Material for Critique 1

Promotion of Eco-tourism in the Central Region of Ghana, Africa.

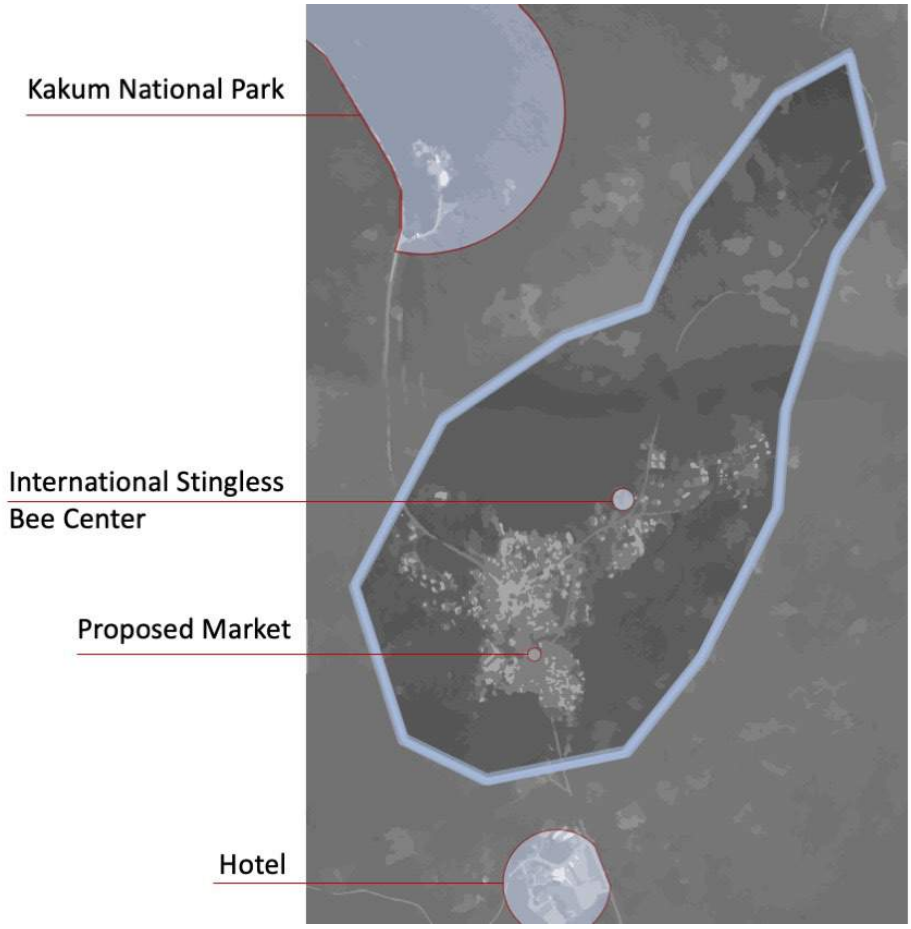
by Sara Musch



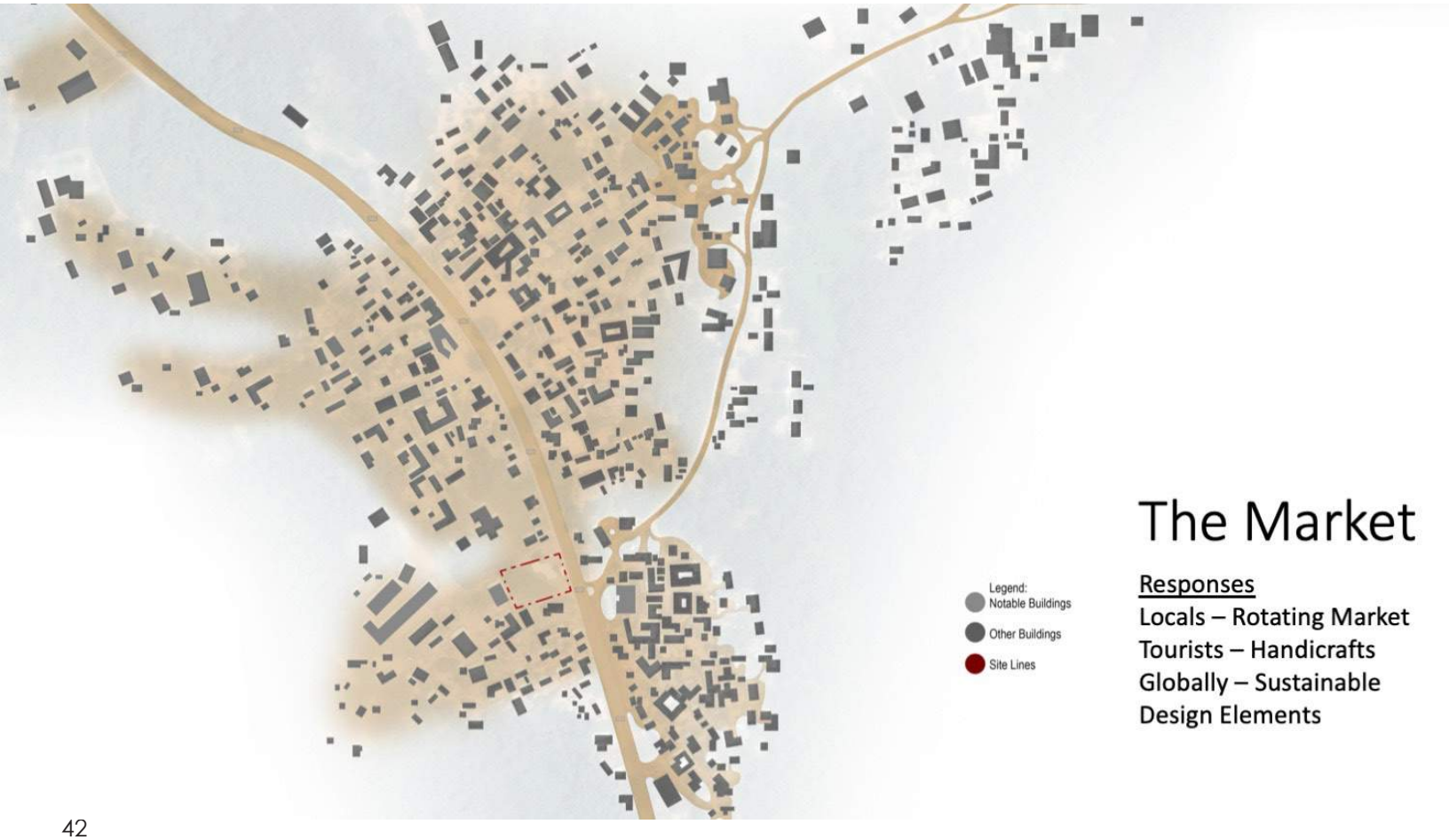


The socio-economic impacts of ecotourism in rural areas: a case study of Nompondo and the Hluhluwe-iMfolozi Park (HiP) (South Africa)

by Sakhil Nsukwini (University of Mpumalanga) & Urmilla Bob (University of KwaZulu-Natal)



Abrafo-Odumase



The Market

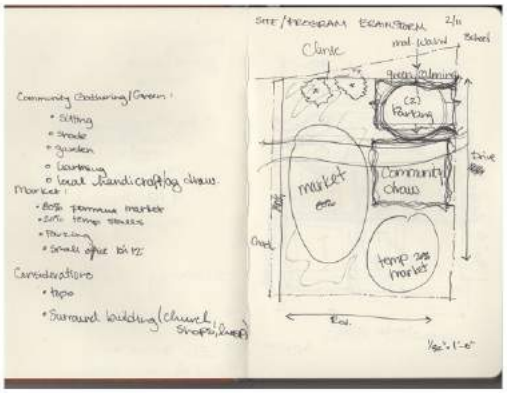
Responses

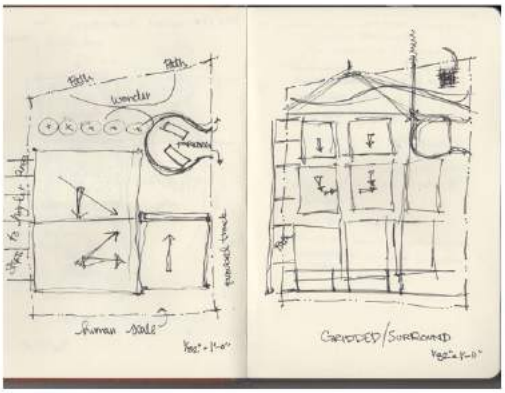
Locals – Rotating Market
Tourists – Handicrafts
Globally – Sustainable Design Elements

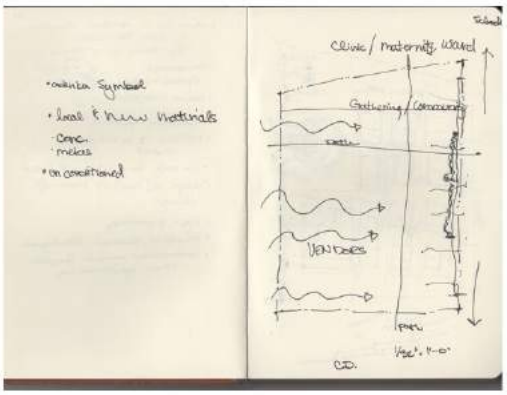
Material for Critique 2

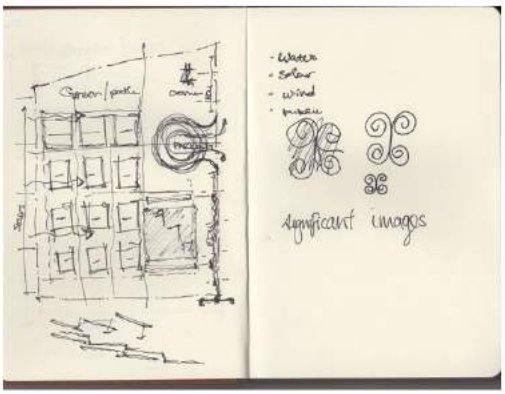
Promoting Eco-Economics in the Central Region of Ghana, Africa.

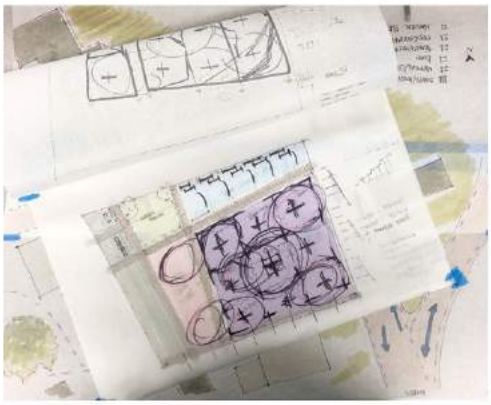
by Sara Musch

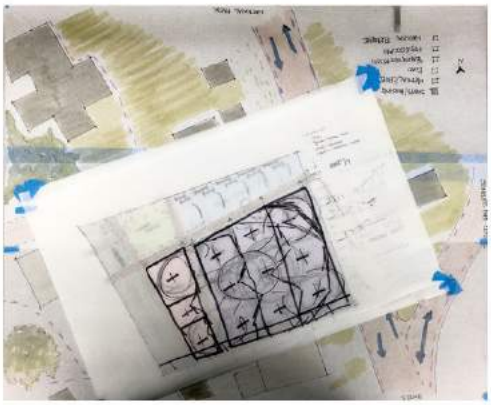






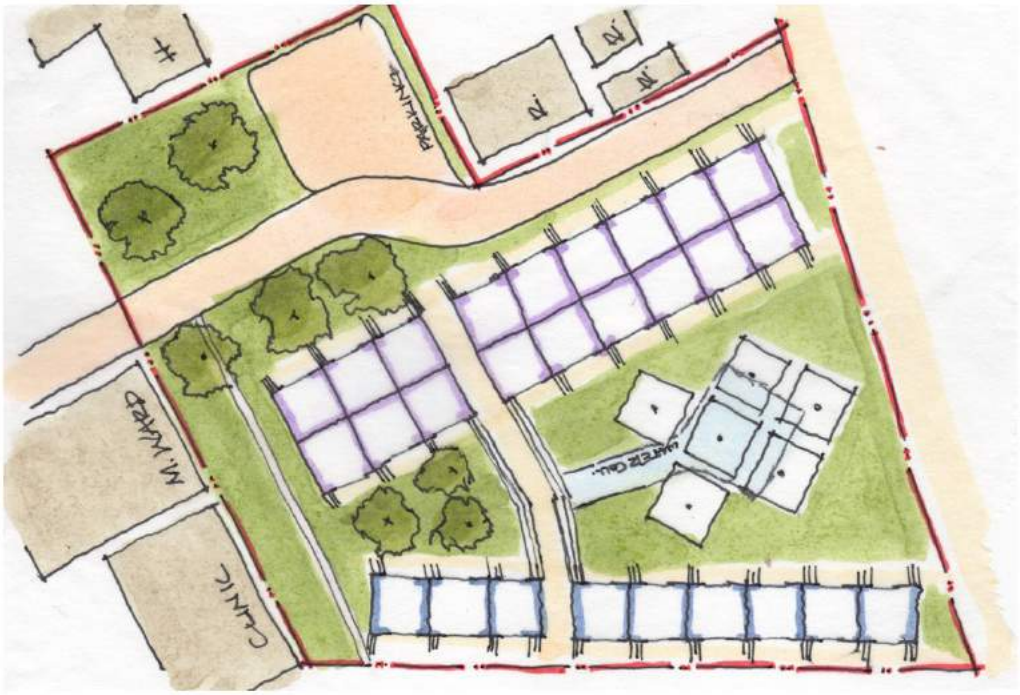






Rio 2016 Olympic Golf Course
Concave Roof by BMDesign Studios
Y-Shaped Roof by Spasm Design Architects

Site Plan



Program

- Market Space (18) 256 SF Stalls **6,553 SF**
- Circulation **6,925 SF**
- Water Collection Feature – Temporary Market Space **2,768 SF** - Community Gathering **6,925 SF**
- Parking/Drive **88 SF**
- Privacy for Clinic

Total 23,080 SF

Material for Critique 3

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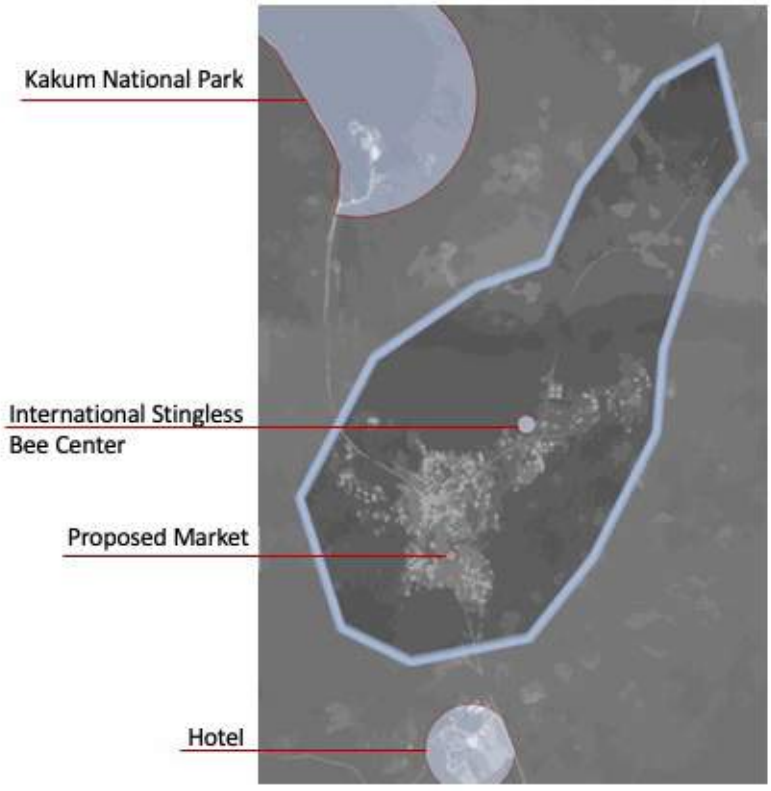
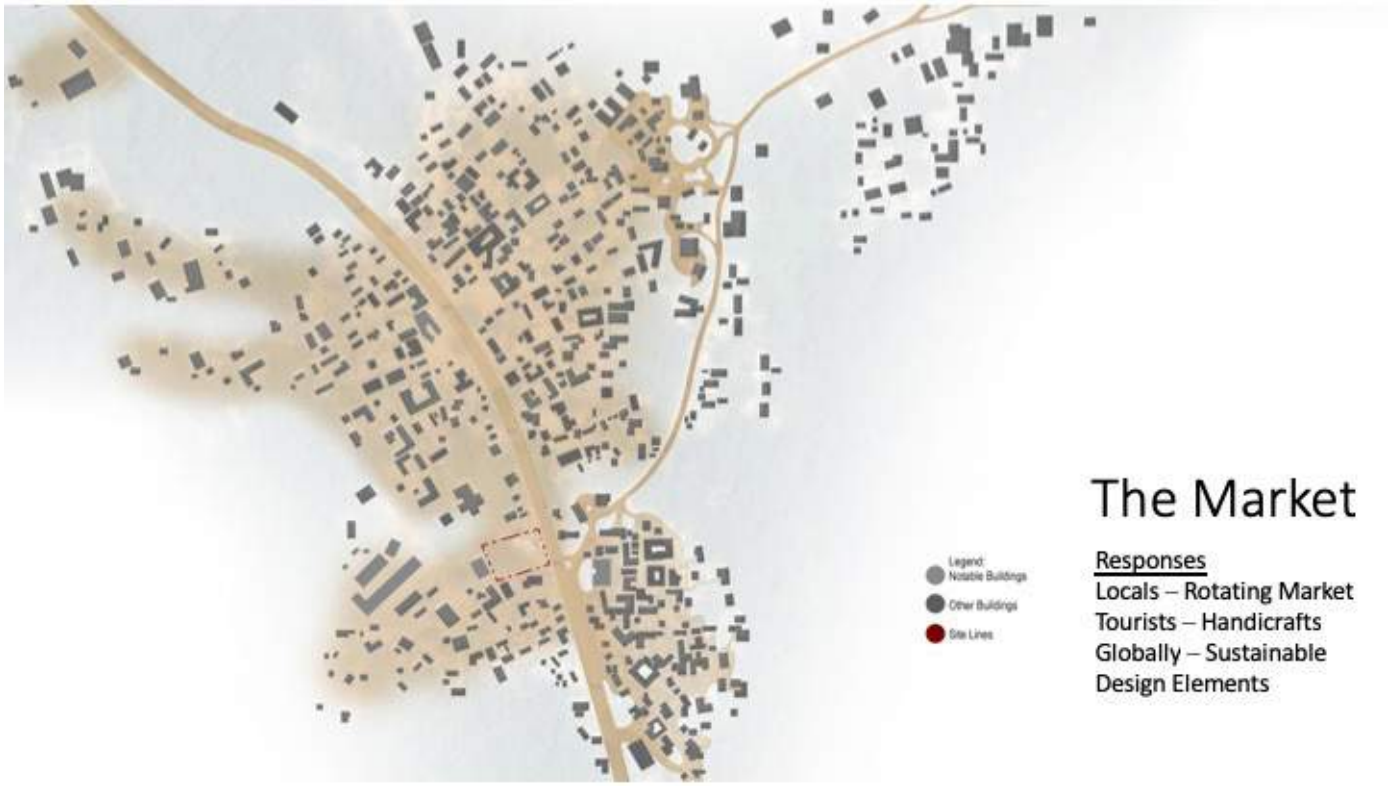
by Sara Musch



Abrafo-Odumase

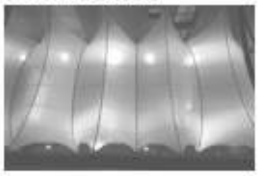


The Market

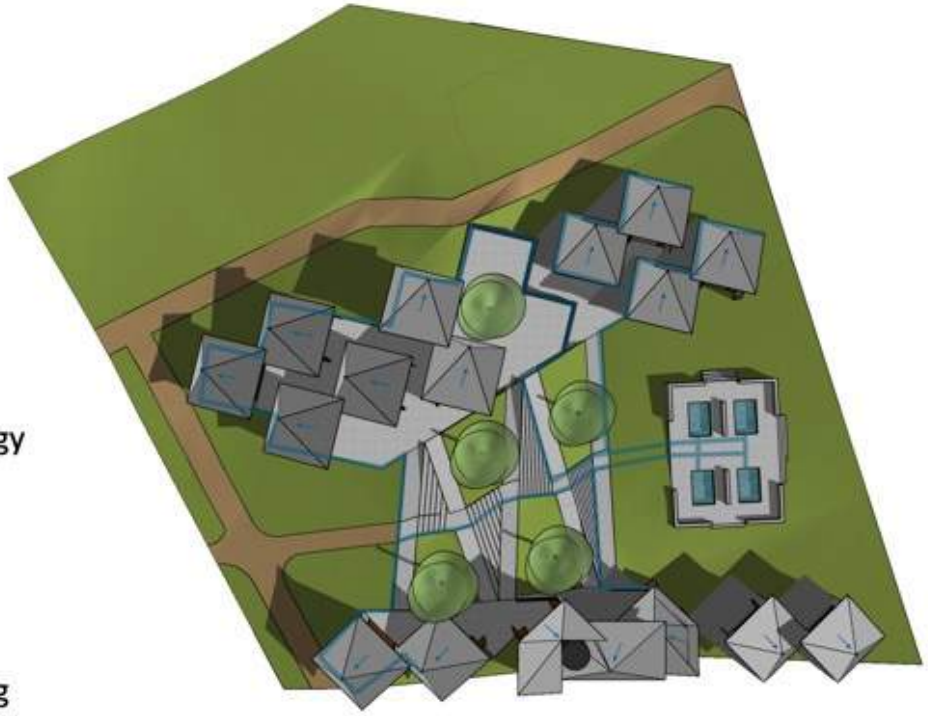
Responses

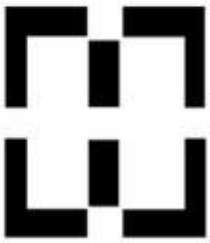
Locals – Rotating Market
Tourists – Handicrafts
Globally – Sustainable
Design Elements

Solar Panels for Energy Collection

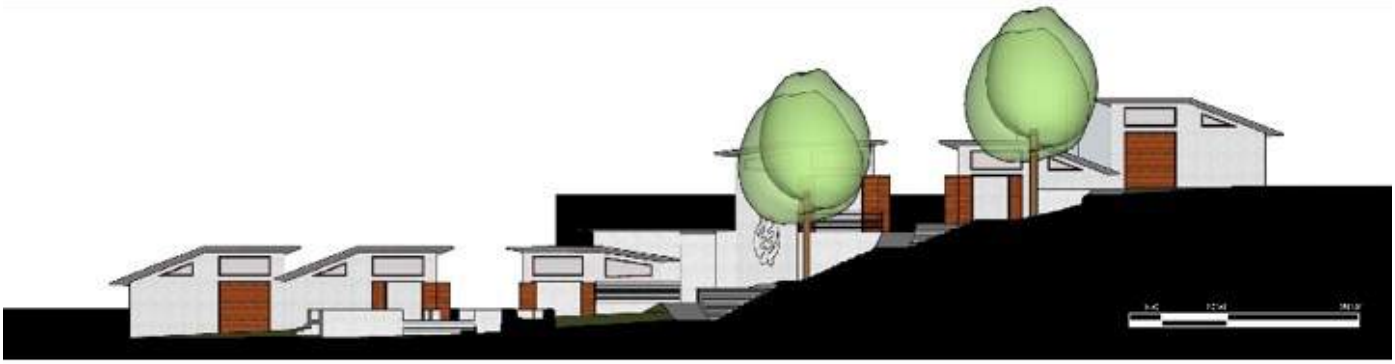


Tenara Fabric Shading

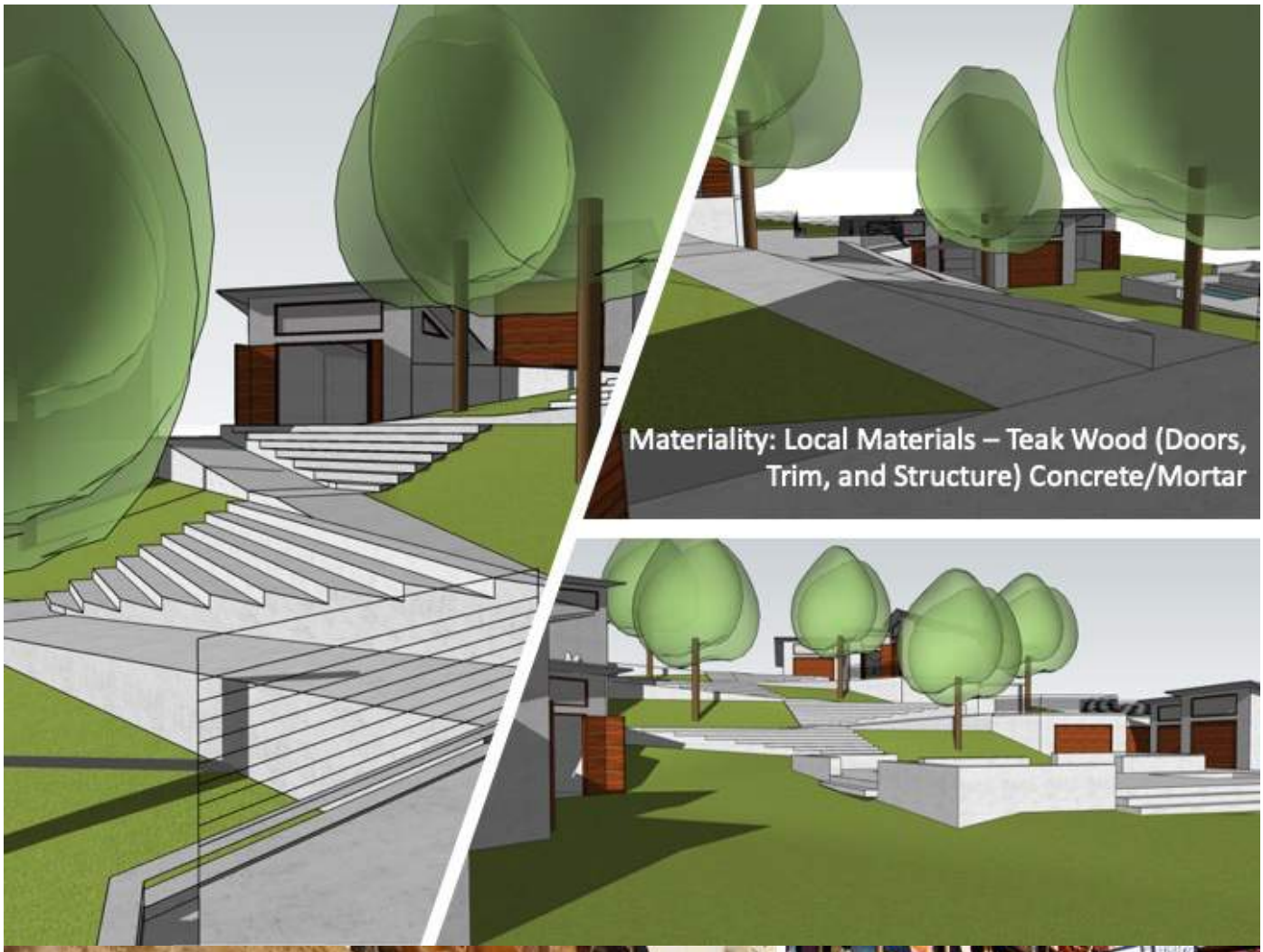




WOFORO DUA PA A
"when you climb a good tree"
symbol of support, cooperation and encouragement
From the expression "Woforo dua pa a, na yepia wo" meaning "When you climb a good tree, you are given a push". More metaphorically, it means that when you work for a good cause, you will get support.



GYE NYAME
"except for God"
symbol of the supremacy of God
This unique and beautiful symbol is ubiquitous in Ghana. It is by far the most popular for use in decoration, a reflection on the deeply religious character of the Ghanaian people


Materiality: Local Materials – Teak Wood (Doors, Trim, and Structure) Concrete/Mortar

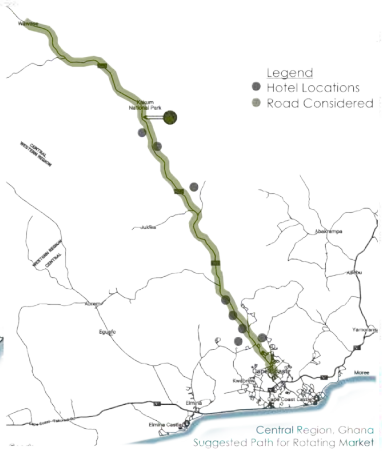
Why the LION chases the ANTELOPE

MASI MARKET
PRIMARY SCHOOL

Final Presentation

World Map, Ghana

Central Region, Ghana



Central Region, Ghana
Suggested Path for Rotating Market

A Market Space

The Promotion of Ecological Economics in Abrafo-Odumase, Ghana.

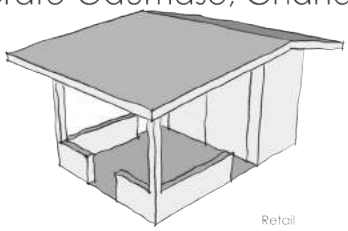
Created by Sara Musch

Through the use of a rotating market system, the use of ecological economics principles can be implemented to sustainability grow the commerce in Abrafo-Odumase and the Central Region of Ghana, West Africa.

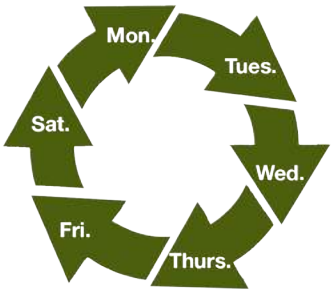
This plan encompasses 43.5 km of R82 in the southwest area of the Central Region in Ghana. The prototype market space is located in Abrafo-Odumase. People from the north and south can join Abrafo-Odumase's rotating market, where people from the region can sell their goods. The goods can vary from agriculture, food, fabrics and handicrafts to name a few. Through this the market can be stimulated not only in Abrafo-Odumase but within the region.

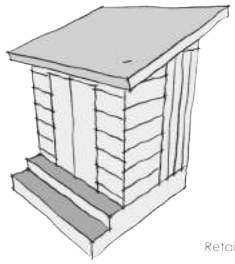
In addition to the everyday commerces, tourists travel through this area averages upwards of 370 people per day due to Kakum National Park. This pull of tourism also provides commerce to the International Stingless bee Center with a local hotel all within walking distance. The update of the Abrafo-Odumase, the market can begin to pull in tourists as an additional revenue source.

Through these two systems of commerce ecological economy can take hold by utilizing locally crafted and sold goods while having a market that utilizes market ecologically positive success. Currently, the market would need more continuous sources of income.



Retail





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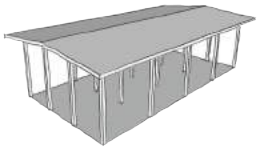
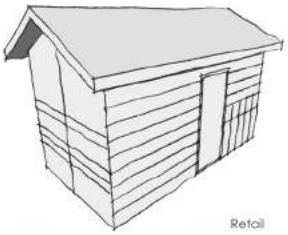


Palm Oil Production

Retail Storage



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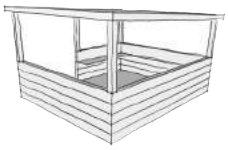
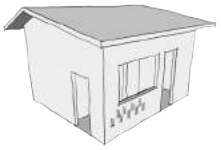
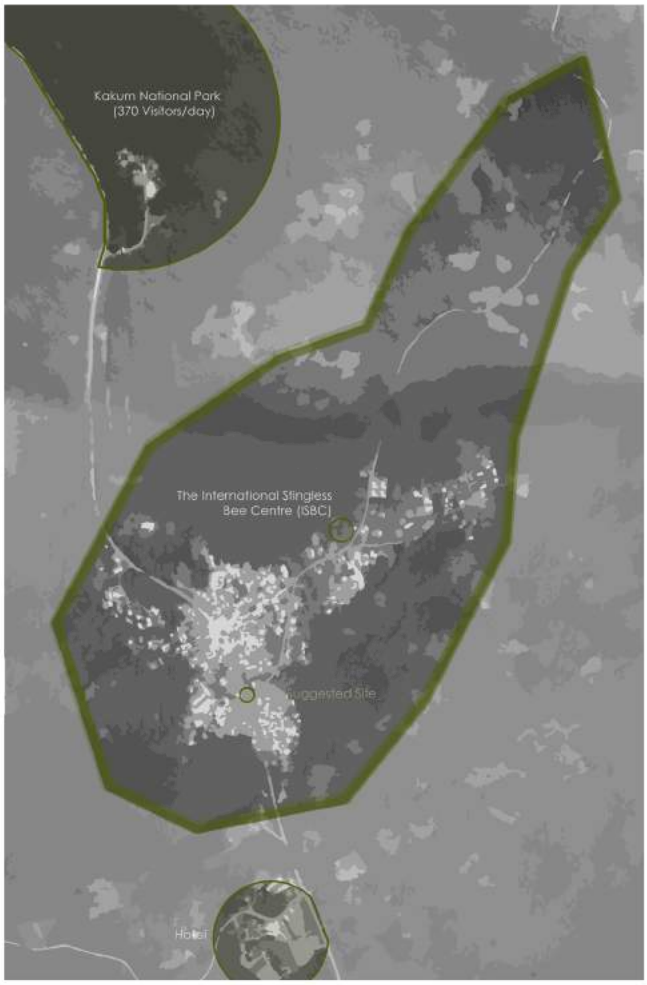


Retail Storage



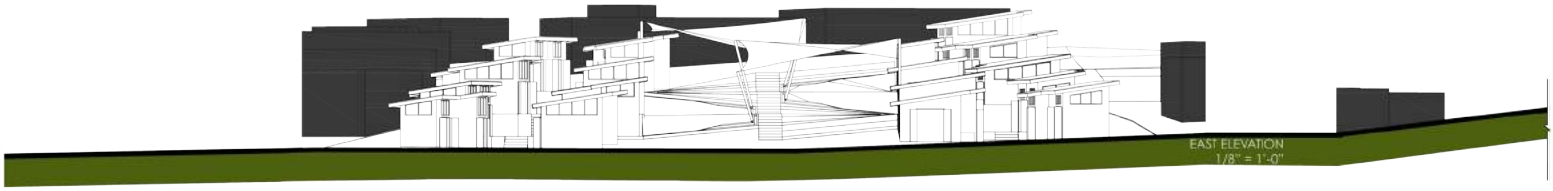
Housing

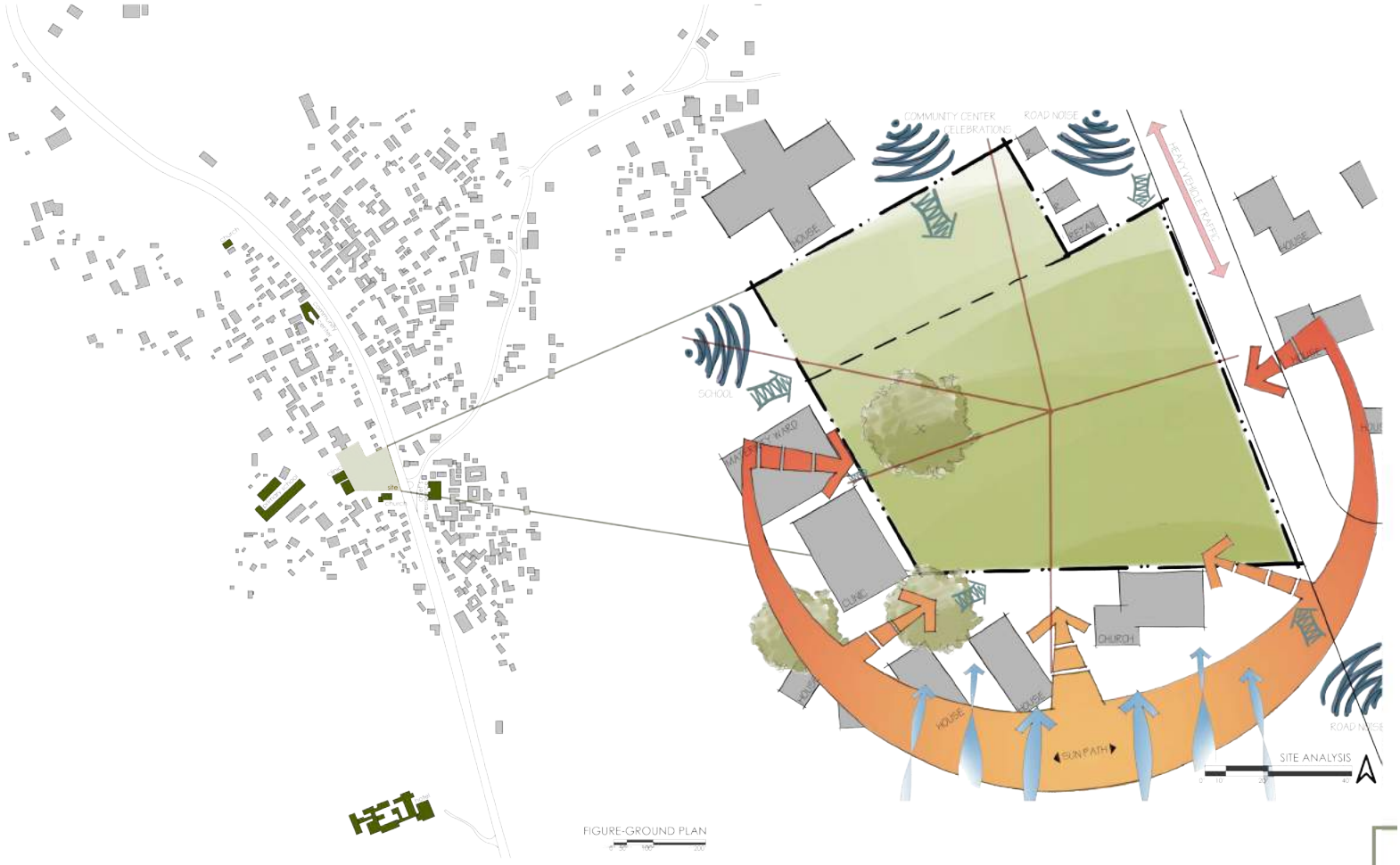


Community Center & Current Market Stalls

Current Market

Current Market





Main Road/Community Center - Photo by John Blake

Side Road - Photo by Josh Gabbard

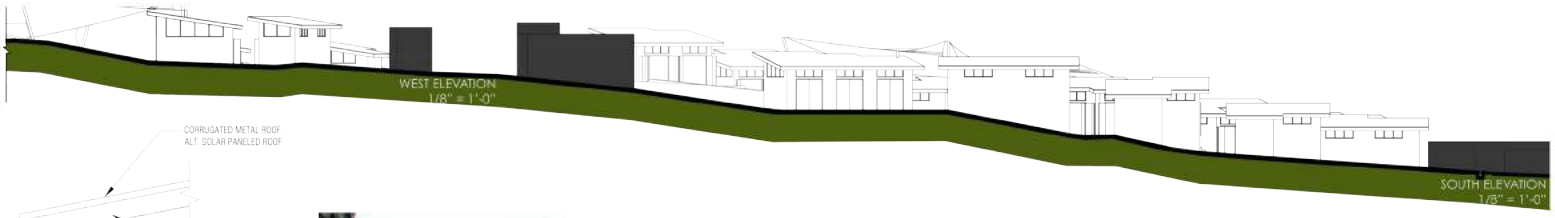
Ananse Ntontan

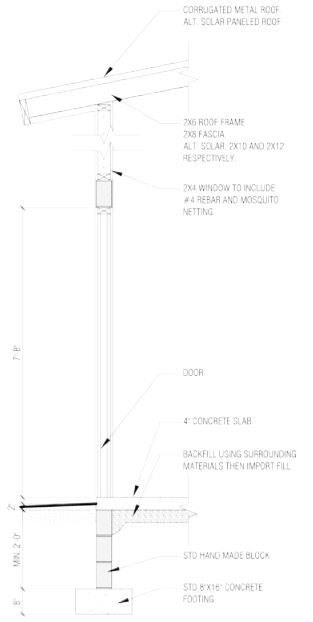
"spider's web"

symbol of wisdom, creativity and the complexities of life

Ananse, the spider, is a well known character in African folktales.

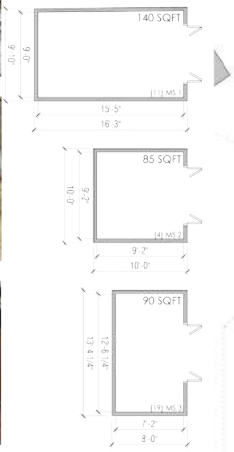
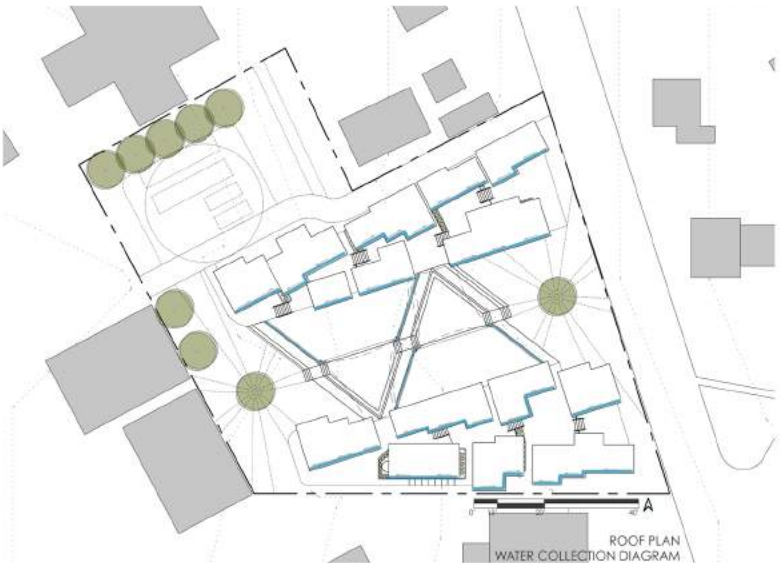
NORTH ELEVATION
1/8" = 1'-0"
SOUTH
EAST
WEST
SECTION
NORTH
R82
Toilet
Toilet
SITE/FLOOR PLAN





BUILDING SECTION
1" = 1'-0"

LOCAL BUILDING TECHNIQUES



MARKET STALL FLOOR PLANS
1/4" = 1'-0"