

# EWB-GHANA & DELTAGDP Case Study Competition

**Columbia University**

Obodan Case Study Information Packet  
*November 2013*

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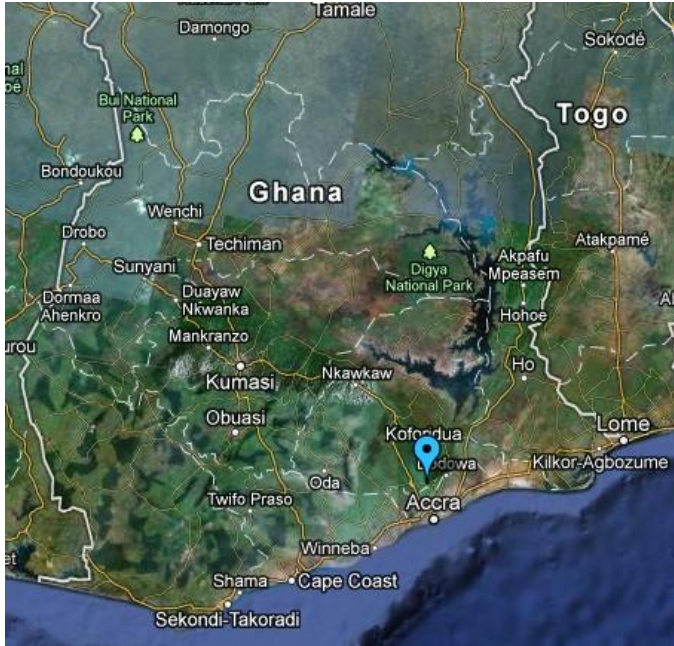
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# 1 Village Information

## 1.1 Introduction

The Ghanaian village of Obodan lies approximately one hour drive from the capital of Accra. The rural village consists of 800-1000 people with up to an additional 500 people in surrounding satellite communities. Recently, the village has seen an explosion of development from the combined efforts of EWB, NGOs, and governmental infrastructure projects. There is both adequate cellular service and access to electricity in the village. However, though the village’s basic infrastructure needs are satisfied, the people of Obodan are still struggling to make a living and find it very difficult to invest their income.



As seen below, there is a large paved road that runs through the center of the village. Most roads are dirt and not paved, excepting the big road (the Aburi-Nsawam road) that runs through the center of town.

Here are explanations of the key landmarks in the village and near it.

- Mini-Marketplace: There is a marketplace (albeit very small) by the road. It consists of two grocery stores that sell basic essentials (soap, paper), food, water, etc.
- Police Station: Newly built, it is staffed by a police officer from Nsawam.
- Two Schools: Girls high school and middle school. Most of the villagers from the town do not have enough money to afford school tuition past middle school. The all girl’s high school has its own dormitory and its own water source from a borehole.
- There is also an empty barn by the town that was built by a previous EWB chapter used to house livestock (goats, pigs, etc) but it has been abandoned.



*(disregard the blue line. It represents the pipeline pathing for the newly installed tap water system)*

The population distribution is very consistent with much of the developing world. The average family size is 7-8 people. The population pyramid is also prototypical of the developing world with more youths than elders. The village is primarily dependent on agriculture.

## 1.2 Project Background

Our relationship with Obodan has a strong history. The Ghana Program of the EWB-USA CU Student Chapter began working in Obodan in 2004 after being contacted by a NGO in the region. After our first assessment trip in 2004, we outlined several major problems faced by the village, including water and sanitation. We began designing and constructing a Kumasi Ventilated Improved Pit and source-separating latrines. Our design separated both liquid and solid waste, allowing the solid waste to fertilize for potential to be used as fertilizer. Since then, we have carried out nine assessment trips, four implementation trips, and two monitoring/evaluation trips (some trips served many purposes). After successfully completing source-separating latrines throughout the village, we looked into addressing the village's water problem.

Previously, Obodan's water needs were met by two communal boreholes fitted with mechanical hand pumps. The quality of the water, however, did not meet Ghanaian or WHO standards. The village's population largely subsists on agriculture (which requires great amounts

of water), and uses inadequate quantities of water for maintaining proper health. Additionally, the time spent waiting for water access can be quite high, especially during the morning peak hour. This is not only an inconvenience but also a distraction from children's schooling and requires multiple trips to provide water for households' daily needs. The two boreholes are located across a busy road and thus pose a great traffic danger, already causing fatal and near-fatal accidents. Starting in 2009, EWB began plans for the construction of a water distribution system, in which we completed in the summer of 2013. The program is now in the monitoring phase to evaluate and assess impact and ensure functionality for the lifetime of completed and future projects.

### **1.3 Project Partners**

From our work in Ghana, EWB Columbia has been in contact with many partner organizations and government agencies. These are:

**Name of partner: SuDeX (Sustainable Development Extension Services) and Samuel Gamson**

**Number of years working together: 9**

**Partner Role:** SuDeX is a non-governmental organization based partially in Obodan, created by one of the professional mentors to CU-EWB Ghana, Steve Forbes. SuDeX completed rural appraisal work for the village of Obodan, allowing CU-EWB to effectively plan and make goals for projects in Obodan. In addition, our in-country contact Samuel Gamson, is a SuDeX representative and has been a crucial connection between EWB and the village of Obodan. Beyond his SuDeX role, he is also the locally elected Assemblyman for the Greater Obodan Region with an engineering degree from Ghana Telecom University. He takes on many responsibilities for the project including assisting with material purchasing, construction management, community organizing, translator and in-country logistical coordinator. Although he does not wear these hats at all times, we can always count on him to help in these capacities whenever we ask it of him.

**Name of partner: Obodan Water Committee**

**Number of years working together: 2**

**Partner role:** The Obodan Water Committee is in charge of operating and maintaining the water distribution system on a day-to-day basis. During the implementation trip, the travel team held multiple meetings with the Water Committee to agree on rules for payment of and guidelines for the use of the water distribution system. Because the maintenance of a water distribution network

can be expensive, the Water Committee has decided to restart the water payment system to pay for the monthly electricity bill and save for future maintenance costs or other community projects. This fund is overseen in partnership with the traditional leaders. The travel team also presented the Water Committee with a preliminary Operation and Maintenance manual this summer.

## **1.4 Obodan Economy**

The economy in Obodan revolves around agriculture. More specifically, most of the population survives by growing and selling pineapples on a subsistence basis. The majority of the villagers are employed by farms as farmhands. Typically, men working in farming jobs from ten to twelve and a half hours per day, whereas women take care of households and family farms. There are two very small grocery stores, and a couple of stands that sell food and phone cards.

The average daily income is 10 cedis per day for men (equivalent to 5 USD. Approximately 2 cedi=1 USD). The family size is about eight. Families normally have at least five people - a father, a mother, and several children. The average family size is approximately seven to eight people, but many families far exceed this number. While a few women earn income by selling agricultural or other goods, the dominant source of income in these families is farm work.

Most families of Obodan are not wealthy enough to own their own farm. As such, men and able-bodied boys look for work on other farms, and this becomes the primary, or in most cases the only, source of income for families. Typically, they may find work for three to four days per week, but there are not enough farms to provide consistent, stable, and ample employment. A few of these farms are located within a 30-minute walking distance, but the majority lie farther, and may be a 20-minute drive away. A few of the men must travel hours to the Central Region of Ghana to find employment as a farm hand, meaning they must leave Obodan on Monday, only to return on Saturday evening. This has posed great problems in families, where children are now said to lack discipline and roam the village free.

The people of Obodan have many times cited unemployment as the greatest challenge in Obodan now that the latrines and water system have been constructed. They see the neighboring village of Fotobi as the model, where sickness and unemployment are low.

## **1.5 Village Hierarchy**

Samuel Gamson is the elected Obodan village assemblyman, and he has been the point person for EWB Ghana. Mr. Gamson has an engineering background in computer engineering and has been elected as presiding member of the Akuapem South Municipal District assembly. He has significant project management experience as a coordinator of past Engineers Without Borders projects, local projects (including the police station), and as a private farm owner. Mr. Gamson is often in frequent communication with EWB-USA CU for updates on project statuses.

The unit committee is a recently formed volunteer committee of village leaders and elders that works to develop the village. EWB works in collaboration with both Sammy and the unit committee. Unlike Sammy's role of village assemblyman, the unit committee is not elected.

There are also traditional village elders that work to resolve conflicts and preside over ceremonies. Some of the elders live in Accra and travel to the village for meetings. The elders are mostly contained within two prominent families.

Steve Forbes, founder of SuDeX has also been elected village chief. There are also many other traditional titles bestowed to respected members and individuals deemed important to the village. For example, Sammy's mother is Queen Mother.

## 2 Region Information

### 2.1 Introduction

Obodan is located in the Eastern Region of Ghana, in the Akuapem South Municipal District. The Eastern region is one of the ten regions of Ghana, and is bordered by the Brong Ahafo Region (to its north) the Volta region (to its East), the Ashanti Region (to its West) and the Greater Accra region (to its south). The Eastern Region occupies about 19,500 sq km, which is about 8% of Ghana's total area. It is the third highest population in Ghana, with about 2.1 million people.

The capital of the Eastern region is Koforidua. The main languages spoken are Akuapem Twi and English. As the capital town of the Eastern region, Koforidua is a very busy city, buzzing with traders, market women, etc. Other business centers in the Eastern Region include Nsawam, Nkawkaw, Suhum, and Akropong.

The Eastern region is popular for its rich culture. The Kwahu Easter festival attracts about five million Ghanaians to the Eastern region in mid-April every year. This festival also attracts thousands of tourists to the Eastern region, where they paraglide over the mountainous ranges of the Eastern Region.

The Eastern region is also famous for its large deposits of gold. There is significant mining activity of gold (Ghana is Africa's 2<sup>nd</sup> largest exporter of gold) as well as a major producer of diamonds, bauxite and manganese.

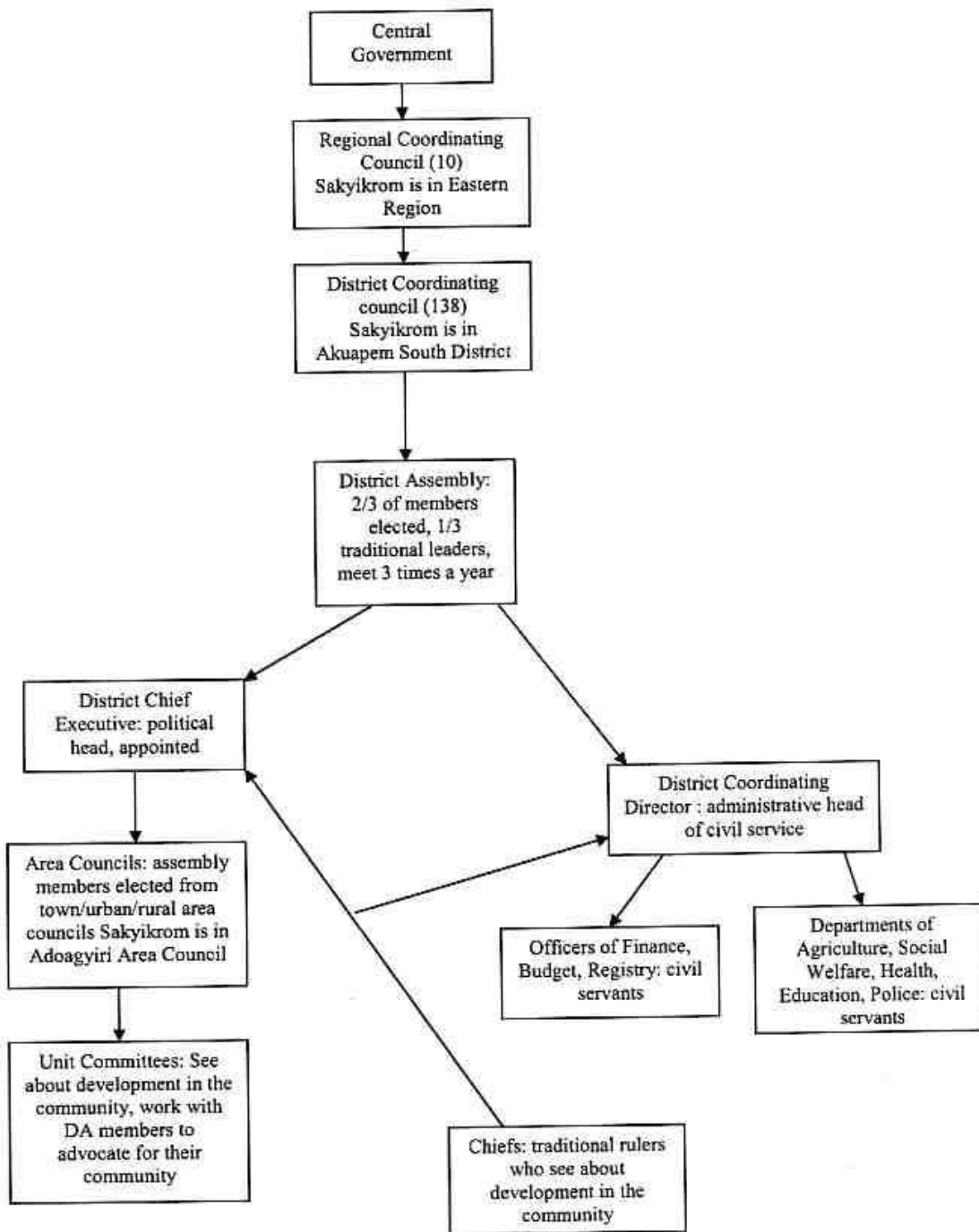
Perhaps, the most significant resource located in the Eastern Region is the Akosombo dam, which supplies electricity to the whole of Ghana, and to parts of neighbouring countries like Togo and Burkina Faso.

The currency of Ghana is the cedi. Roughly, 2 cedis is equivalent to one dollar.

### 2.2 Government Hierarchy

Attached below is the organization of the government. Sammy is the presiding member of the South Akuapem District Assembly (kind of like the speaker of the district assembly). The government has programs in place to help enterprises, but due to the scope of Ghana's rural poor, it is difficult to apply for such grants and programs. Sammy is a big advocate for development in

his region, and government contributions have led to the construction of the Obodan police station among other things.





## 2.2 Nsawam



Nsawam, a town which is about 15 minutes from Obodan by car, is one of the centers of attraction in the Akuapem South Municipal District of Ghana. There are about 45,000 residents in Nsawam, made up of mainly traders. Nsawam plays an important part in the manufacturing and distribution sector of Ghana. It can boast of some of the best pineapple juice factories in Ghana, like the Blue Skies Factory. Since it is the home of many traders, Nsawam has several pockets of markets and restaurants. Street vendors are also very common.

In terms of social infrastructure, Nsawam is among the most developed towns in the Eastern Region of Ghana. It is the home of one of Ghana's premier security prisons, the "Nsawam Medium Prison." Most of the roads within Nsawam are developed and paved, and there is frequent transportation to and from Accra via shuttle busses known as "trotros". There is also a taxi hub in Nsawam. This town also plays a central role in the education of Ghanaians, as it is the home of prominent High Schools like the Nsawam Secondary School, St. Martins Secondary School and Nana Osei Djan Junior High School.

Furthermore, Nsawam plays a critical role in the health care system of Ghana. The Nsawam Government Hospital is the best in the Akuapem South Municipal District, and is rated to be one of the best in the Eastern Region of Ghana.

### 2.3 Nearby Points of Interest

The closest village to Obodan is Fotobi, which is about 10 minutes walk from Obodan. Fotobi is actually considered to be the richest village in the area. While a little larger than Obodan in terms of population, Fotobi has a bar, grocery stores, artisan specialty shops, and a souvenir shop. Major telephone provider MTN also has built a FM tower in the village. Sammy admires the entrepreneurial spirit of Fotobi and cites it as the model in the region.

The Eastern Region hosts some of Ghana's most popular tourist sites. One of such is the Akosombo Dam which is the largest power plant in Ghana and supplies about 90% of the electricity of Ghana. This dam was built by President Kwame Nkrumah between 1961 and 1965, costing about 130 million Euros. This Dam is managed by the Volta River Authority of Ghana. The length, width and height of the Akosombo Dam are 660 m, 366 m, and 114 m respectively. Its volume is about 7,900,000 cubic meters, and has a spillway capacity of 34,000 cubic meters/second. As a result of the creation of the Dam, the Volta River Basin was flooded and resulted in the formation of its reservoir, Lake Volta, which has a surface area of about 8,502 km<sup>2</sup> becoming the largest man-made lake in the world.



The Akosombo Dam not only supplies Ghana with electricity, but also other neighboring countries like Togo and Benin.



Another tourist site in the Eastern Region is the Aburi Botanical Gardens. This garden is about 30 minutes from Obodan by car. The Gardens cover about 64.8 hectares, and is the home of a large range of traditional and medicinal plants, and some of the largest species of plants in Africa. It was established in March 1890. These gardens are not only important because they serve as a hotspot for tourists, but also because they serve as places to learn about scientific methods of agriculture, research into plants of different species, and horticulture training.

## **2.4 Resources and Terrain and Problems**

The Eastern region of Ghana is blessed with several natural resources. There is a lot of gold, and as such mining is very common. This region also houses Ghana's only diamond mine, at Akwatia. The soil also supports certain farm crops like pineapple and cocoa. In fact the Eastern region produces the largest harvest of pineapples in Ghana.

In general, the Eastern region has a mountainous landscape. The Region is famous for the Akuapim ranges, Kwahu hills, Krobo Mountains. On these mountains lay the tropical rain forest- the home of several birds and insect species, waterfalls and virgin forests. Some famous waterfalls are the Boti falls (in Koforidua) and the waterfalls at Begoro. Close to these falls is a butterfly sanctuary, which houses about 150 different species of fems and some of the largest butterflies in the world.

[http://www.ghanaweb.com/GhanaHomePage/tourism/eastern\\_region.php](http://www.ghanaweb.com/GhanaHomePage/tourism/eastern_region.php).

However, there exist many problems in the region. There is great pollution of water bodies by illegal miners (galamsey operators). Since there is abundance of gold, many miners do not employ the most environmentally friendly mining techniques, polluting the water bodies in the process. What is more alarming is that these water bodies serve as the main source of drinking water to many villages in the region. As such, water borne diseases are very common in the Eastern Region.

Unemployment is another major problem in this region. Since the region relies heavily on farming, there is little room for employment in other sectors of the economy such as the manufacturing sector. Many graduates do not find jobs because, in most cases, the largely

agricultural based economy does not accommodate them. As such, many engineers in this region travel to the capital of Ghana, Accra, to obtain employment.

## 3 Village Problems

### 3.1 Economy

The men in Obodan normally work as “farm hands,” meaning they are hired on a daily basis to work on somebody else’s farm. The income generated by this is the principal source of income for families, though, they can only find work as a farm hand 3-4 days a week, and each day’s work earns only 10 cedis. An inherent problem in this system is that the farms the men work on may be far away - some are within an hour’s walk, and others are in other regions of the country, many hours travel away. The men who work far away often leave on Monday and only can return on a Saturday evening, which poses obvious problems in families. Sammy now cites the lack of discipline and the excessively care-free spirit as a result of this practice. The women generally sell food or small goods, but earn little money through this. Women who work on farms generally earn less money per day - 7 cedis (3.50 USD) or so.

The elected village leader, Sammy, has his own farm. He currently rents a truck to transport his crops to the market because he does not have the immediate lump sum to buy his own truck. Sammy personally mentioned that a majority of his profits go towards renting the truck, thus impeding further growth of his business, with the total annual amount spent renting the truck possibly equaling the cost of the truck. Other than Sammy, there are no higher-scale entrepreneurs (other than a small group of successful female traders who participated in a microfinance project), although there were a few unsuccessful business ventures in the past. The Rose-Hilman Engineers Without Borders group gave money to a group of women in the village with the goal of starting a chicken coup. The coup lasted for 5 months until the women were forced to sell the chicks in order to pay for clothing and schooling. This single circumstance represents a larger problem in the village - the fact that small entrepreneurial ventures that require a high capital investment are relatively unfeasible, for the villagers do not have long term funds that can keep them alive as they wait for a return investment.

### 3.2 Water and Sanitation

The village had issues with contamination due to human waste. We have implemented latrines to alleviate this problem. The latrines have helped the problem, but the people are not currently using the latrines completely properly. In the trip we are sending this coming January, we will review proper operation and maintenance of the latrine and monitor its use.

Obodan’s water table provides sufficient water to sustain the village, though water usage was severely less than what the World Health Organization stipulates is necessary for health. In addition, the water was contaminated due to the filthy manual pump in the borehole; last year Engineers Without Borders found that the water was contaminated with E. Coli and had excessive counts of bacteria. This past August the team constructed a water distribution system,

where water was brought through a submersible pump from the water table to the surface, thus eliminating the issue of contamination (though this will be thoroughly tested this winter). We believe that because we have constructed three locations at which the villagers may collect water, they will be more inclined to use more water to sustain basic health.

Electricity in the village has expanded in the past few years. A couple of years ago, the majority of the village have adopted the use of electricity for uses such as cell phones, television, and lighting. Sammy estimates that approximately 80 percent of the village now has electricity, though it is still limited and difficult to pay for. There are major issues with blackouts and these usually occur around once a day. The reliability of the electricity will increase in the next couple years as right now a new and bigger electrical transmission line is being built and will provide access to Obodan in around two years.

### **3.3 Education and Skill**

Schooling is free until middle school but most families cannot afford high school for their children. Other than a generally low educational level amongst the villagers, this means that individuals of high school age have a lot of free time on their hands, as they are not in school. This is an unallocated resource with a lot of potential, for many individuals in this category have the desire to work. However, the lack of a higher education within the younger generations of the village is also a problem - for it will manifest itself into a more widespread lack of education as the younger generations mature. However, this is a separate problem that was not intended to be addressed in this case study, but it is still worth noting.

Almost all children attend primary school, yet middle school and high school pose economic burdens on the families, meaning a small number can attend. Obodan has recently constructed a girl's high school, which attracts teachers and is seen as a way for the village to gather educational resources. Still, though, the high school does not serve a substantial number of Obodan's youth.

In addition to the unemployment among the high school age population, about 80% of the villagers do not have a regular job. Such unemployment is not due to a lack of desire to work, but instead due to the lack of an employer or entrepreneurial venture that would provide such employment. Although a challenge, this specific type of unemployment provides immense possibilities, as there is an able-bodied workforce that is ready to implement any solution that you create.

Lastly, among the villagers there are few skilled laborers, as any villager who has a job is most likely a farmhand. However, as mentioned above, there is a general desire to work, which would facilitate any necessary training. In addition, the villagers exhibit a sense of resourcefulness and ingenuity in their everyday life, constructing their own houses and implementing solutions to problems that arise on a case by case basis.

## 4 Village Potential

### 4.1 Farming

The general climate in Obodan makes farming suitable. Located near the equator, and in the forested region of Ghana, Obodan receives rainfall during the two rainy seasons from April to July and from September to November. It also has good sunshine patterns, and fertile soil. However, frequent rains are a cause for significant erosion in the area.

The common cash crop in this region is pineapple. It can be grown easily, and year-round. With such small plots, the farmers sell directly to market in nearby towns. Larger farms can supply to companies for export, such as Blue Skies, but no farms in Obodan are big enough for this level of supply. At these markets, pineapples are in high supply, yielding a low price per fruit. Exporters would be able to buy these low-priced pineapples from the farmers, and this might be a constant supply of income to these pineapple farmers. In addition, there is a good chance the exporter will make profit from pineapple exportation, taking advantage of the price difference of pineapples in Obodan and the intended country of export.

More feasibly, if Obodan had its own pineapple processing plant, this could be a source of income to many of the farmers. With a constant high supply of pineapples, a processing plant could be vital for the region's economic development. It would allow the farmers to sell a more processed product at a higher price.

### 4.2 Labor

In the village, there is a large amount of unallocated labor. As mentioned in 3 (Village Problems), many high school aged youths are available to work since they are not enrolled in high school because high school in the village is not free. In addition to the younger generation, the adult population also consists of many possible workers. The word "possible" is used because only about  $\frac{1}{3}$  of the village is employed due to a lack of employers within a distance that is feasible for the villagers to travel on a daily basis. The possible laborers and those who are currently employed are all unskilled laborers who work as farmhands. However, as mentioned in 3 (Village Problems), the villagers exhibit a high amount of resourcefulness in their daily life, and would be easily able to become trained in a skilled job.

The men are very accustomed to long hours of farming work for approximately 10 cedis a day. This is almost twice the Ghanaian daily minimum wage but a chunk of this wage must go towards transportation, since most farmhands work for larger farms outside of the village.

### 4.3 Small Business

While there are not many small businesses present in Obodan, there had been many attempts to set them up. The current food vendors in the village started through a microfinance firm in Accra. They sell food using these loans and pay back weekly loans to the banks. For many, financial need is what is preventing the people of Obodan from starting their own businesses.

Sammy, who is both an elected and traditional village leader has been our primary source of information regarding the village. Through our own firsthand experiences with him, we have come to believe that Sammy is truly concerned with the wellbeing of the village and is a reputable source of village information.

#### **4.4 Other**

There are two schools in the village, which serve as an attraction for upper class individuals, such as teachers, to the village. Sammy believes that for this very reason, Obodan has experienced considerable advancements. For example, teachers will come into Obodan in order to buy their groceries, building a clientele for other business ventures, as teachers have a larger disposable income than the average villager.

The proximity of Fotobi, which is wealthier than Obodan has also led to a spillover effect. The introduction of a police station has also provided jobs to the local Obodan people.

## **5 Similar Entrepreneurial Solutions**

### **Bamboo Bike**

The Ghana Bamboo Bikes Initiative offers an entry level course that deals with the construction and maintenance of bamboo bikes, with the goal of increasing entrepreneurship in Ghana. Bike building is a good venture because it is environmentally friendly, consists of a short supply line, promotes a stable job associated with skilled labor and encourages entrepreneurial spirit.

<http://ghanabamboobikes.org/apprenticeship-and-job-training-in-bicycle-mechanics-bamboo-bike-academy.html>

### **Waste to artisan crafts**

Recnowa is an award winning innovative social enterprise that trains and employs street youth from disadvantaged communities in Ghana to clear their streets of plastic and other material waste creating serious environmental havoc in our cities and uses the creative talents of Ghanaian artisans to have fused it with innovations, creativity and modern design sensibilities and up cycle them into high-end designer handmade products such as bags, wallets, shoes, furniture, home décor, shirts that are ethical and eco-friendly. The conversion of civilian waste to high end goods has been very successful in utilizing the labor of skilled artisans and unskilled youth in urban cities, both of which previously faced widespread unemployment.

<http://recnowa.org/>

### **Usage of Pineapple husks**

The pineapple leaves can be woven into a fabric called piña. Traditionally, the fabric can be hand woven without the need of any machines, making it a venture with a low startup cost. In addition, piña is a fabric that has many uses, and can be woven to craft heavy duty bags,

clothing, table linens and mats. There have been companies operating in other countries, especially India, that extract these fibers from pineapple husks using specialized machines.

Pineapple fibre is used for making cloth and also at times combined with silk or polyester to manufacture textile fabrics. Pineapple fibre is also used for table linens, bags, mats and other clothing items.<sup>7,8</sup> It makes different uses across the various parts of the world. The huge potential for pineapple fabric makes it for diverse uses and eco-friendly properties. Weaving, sewing and other activities lead to the commercial products manufacturing. The scope of a huge market in Assam and outside of north-east region of India is there. The natural fibres with different crops like jute, coir, ramie, flax, hemp etc. in comparison to PALF already established themselves in the market worldwide.

### **Microfinance**

Many organizations (non-profit or for-profit) offer microfinancing for ventures in Ghana. However, most of the microfinancing is given out on the premise that the recipient already has entrepreneurial ideas or even their own functioning business. Businesses or entrepreneurial ideas are limited in Obodan, although there is a strong desire to work. Additionally, the pressing need to pay off bills has led other microfinance ventures in the village, like the Rose-hulman barn to fail.

### **Mining - specifically Gold, Manganese, Diamond and Bauxite**

Without a doubt, Ghana has immense mining potential due to its plethora of natural resources. However, towns that have turned into “mining towns” have not encountered specific success from the villager’s perspective due to corporate greed. In fact, mining towns frequently have fewer life amenities than non-mining towns. In addition, reckless mining has been detrimental to the environment and many corporations have loose safety codes, leading to a high incident rate. Therefore, being that the goal is to benefit the actual inhabitants of Obodan, if mining was to be used, the traditional system would have to be revamped to create a more worker-oriented program.

<http://www.modernghana.com/news/474977/1/living-in-riches-but-poor-the-parad.html>

**Check this website for more information:** <http://www.mytopbusinessideas.com/ghana/>

## **6 Statistics**

Ghana ranks 135 out of 187 countries on the United Nations Development Programme's 2011 Human Development Index – a comparative measure of life expectancy, literacy, education and standards of living for countries worldwide. Rural poverty remains widespread in the dry savannah region that covers roughly two thirds of Ghana's northern territory. Unlike the south, where there are two growing seasons, the northern plains are drought-prone and present relatively few economic opportunities.



## **Percentage of Businesses**

Most of the customers of rural financial services in Ghana are small or very small ('micro') business owners who operate in the informal sector. This group of businesses is very large in Ghana, probably employing 25-33% of the working population. Out of these, about 60-80% are located in rural areas. A majority of these enterprises are women owned and operated. It is estimated that three quarters of Ghanaian households depend on these small and microenterprises for at least half of the household's income.

Poorer rural women tend to operate the very small or 'micro' enterprises. A popular one is raising poultry or livestock such as goats. In northern Ghana, an estimated 70% of women own livestock or poultry, which may serve family food and income functions. Women all over Ghana also process oil from palm, coconut, groundnuts and shea nuts. Other common businesses are: dry-season vegetable farming, batik-printing, basket and mat-making, soap-making, fish-smoking, cassava-processing, pitoh-brewing and petty trading. Women may also process wild fruits, such as that of locust trees, into a spice called dawa dawa. In certain areas, women make pottery. In some parts, such as the north, shea butter extraction is a common activity. Gender and cultural taboos can dictate the types of activities women (or men) select.

For more information, check out:

<http://www.ifad.org/gender/learning/sector/finance/43.htm>

## **6.1 Further Resources**

### **2010 Ghana Census:**

[http://www.statsghana.gov.gh/docfiles/2010phc/National\\_Analytical\\_Report.pdf](http://www.statsghana.gov.gh/docfiles/2010phc/National_Analytical_Report.pdf)

(Around page 249 for economic data)

### **Ministry of Food and Agriculture:**

<http://mofa.gov.gh/site/#>

(There are a lot of agriculture programs in place worth checking out)

### **Ghana Statistical Service**

<http://www.statsghana.gov.gh/statistics.html>

(any kind of stat, you will find here)

### **Millenium Villages**

<http://millenniumvillages.org/the-villages/bonsaaso-ghana/>

(Millenium villages have become a model for development throughout Africa. Take a look at how they tackled these different projects and see if you could use any of those methods for Obodan.)