

**REFLECTIONS: A PERSONAL PERSPECTIVE**

**THE INFLUENCE OF CULTURE AND GENDER IN HOUSEHOLD FOOD SECURITY**

SUBA DISTRICT, 2000

**Kenya**

**A Project Conducted on Attachment with Dr. Z.R. Khan and the Gatsby Project for Biological Control of Stemborer and Striga Weed in Habitat Management.**

**ICRPE- Mbita Point Field Station**

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## Introduction

“Excuse me, *Ni shi Li Bian ma?*” I turned around in the crowd of dark faces to see a Chinese man coming towards me.

“Wo shi, yes, I’m Bian Li.”

“ I’m Dr. Xia, from ICIPE. Nice to meet you. I am here to pick you up to go to the center.” I followed him quickly out of the Jomo Kenyatta International Airport as he took my luggage to the car. It was around 8:30 p.m. local time, and the lights of Nairobi were gleaming in the darkness as we made our way through all the roundabouts and on to Uhuru Highway.

I could still not believe it- I was finally here in Kenya-2 months working for the International Centre of Insect Physiology and Ecology. On the plane, I had told myself that I would be making the best out of this chance of a lifetime, yet at that moment I had no idea just how incredible it would turn out to be.

Dr. Xia noticed me taking in my new surroundings as I looked out the window. We sped past office buildings, neighborhoods, construction sites, and of course, poverty.

“ This is the Third World, and Kenya is actually one of the better places in Africa. We’re having a drought right now though, so there is a lot of power and water rationing here in Nairobi.”

“Ok. Well, how far is it to ICIPE?” I asked.

“About 20 km. It’s located in a suburb called Kasarani, more specifically-Duduville. Dudu is Kiswahili for insect, quite appropriately named. So what are you here for anyway? You’re working with Dr. Khan, right?”

“Yes, I am, but I don’t know what I’ll be doing exactly yet. I’m here for two months as an intern for the World Food Prize.”

“ World Food Prize? They told me it was the World Food Programme. I thought it was weird that the UN would be sending such a young person to study here. Is this World Food Prize an international group? How did you get this internship? Where are you coming from?” He asked.

“Well, have you heard of Dr. Norman Borlaugh? After he won the 1970 Nobel Peace Prize, he wanted to create an award that would recognize achievements in food security, so he came up with the idea for the World Food Prize. It’s headquartered in Des Moines, Iowa, an agriculture-based state in the center of the U.S. I go to high school in Ankeny, outside of Des Moines. In October of ’99, I participated in the World Food Prize youth institute at the annual conference, and I presented a paper about the logistics of food security. I applied for this internship, and there were 9 of us who were assigned to various sites around the world.”

“So you live in America? Well, you’ve got some guts-very brave to come to Africa by yourself when you’re so young. Your parents must be extremely worried. Why did you want to come to Kenya?”

“Ever since I was little, I’ve been fascinated by Africa, and I could never let this chance of a lifetime go by to come here. Plus, there are so many problems here and people who can help are desperately needed. Yeah, my parents are very anxious and worried, but I know I’ll be fine. This is going to be a wonderful experience. I can feel it already.”

As we drove through Nairobi, Dr. Xia continued to introduce me to Nairobi life, and explained to me about ICIPE. He is the leader of Insect Formatics, manages the Internet and computer system at the center, and is one of the several Chinese scientists working there. Established in 1970, ICIPE is an intergovernmental organization whose mandate is to ensure global food

security through the development of biological methods of pest and disease control. Its various projects and activities incorporate many fields of research, including behavioural biology, population ecology and ecosystems science, chemical ecology, molecular biology and biotechnology, and social science. Currently, ICIPE is striving to improve its four main areas of focus-the '4 Hs'-human, animal, plant, and environmental health. Previously during the World Food Prize conference in October, I had met and spoke with the Director General of ICIPE, Dr. Hans R. Herren. Now, here at ICIPE headquarters, I was able to meet with him again to discuss my project, and he explained to me the current undertakings of ICIPE. I was to be under the supervision of Dr. Z.R. Khan, and had assumed that I would be based in Nairobi the entire time. Four days after my arrival, however, I left for a small field station 400 km away from the capital, a place called Mbita Point...



### **Mbita Point**

I still remember the incredible feeling I had when I first saw it- the lake. And such a magnificent lake- Lake Victoria. I sat, transfixed, and through my window, I saw a breathtaking view. It was sunset- and the water reflected the brilliant reds and purples of the sun as it waned behind the islands in the middle of the lake; the endless mass of water, blending into the clouds as it crept its way into the horizon. And then, the fishermen, one by one, settling onto the water as they prepare for the night's catch.

We had been driving for the entire day now- Dr. Yan, Dr. John, and I, as we traveled from Nairobi to Mbita, a place on the edge of Lake Victoria by the Ugandan border 400 kilometers away from the capital. We had driven through the Great Rift Valley, Maasai land, wheat fields, cities, towns, forests, and now, we were driving on a long, ragged road to reach Mbita Point

Field Station, the place where I would call home for the next two months. Mbita, along with Gwasssi, Mfangano, Rusinga, Lambwe, and Central, is a division of the larger Suba District in western Kenya. In Kenya, the land is split by province, then district, and then to a smaller division. Within a division, there is a location, a sub-location, and finally, a village. The villages here in Mbita and the surrounding areas usually consist of several homesteads, each with their own plot of land. The people here are subsistence farmers, with an average acreage of maize, sorghum, and bean plots of about 2-5 acres.

We were now driving through Lambwe Valley, where the setting sun cast a fiery shadow over the hills, bathing the landscape in its last remaining glow. Below in the fields, I saw the yellow maize and sorghum fields, covered with beautiful purple flowers.

“Wow, they have such beautiful fields. They plant flowers along with their crops!” I exclaimed.

John laughed. “Don’t be fooled, Bian. That beautiful flower is called Striga. It is actually a deadly parasitic weed that preys upon the maize, causing tremendous crop loss here in this region. In fact, I believe you will be working with Striga. Dr. Khan’s project deals with the biological control of weed and pest infestation.”

I had only been in Kenya for 4 days, and already, I was learning so many things about this place everyday. It was such an incredible feeling to be bombarded with new knowledge by experiencing things firsthand.

“*Habari mzungu,, habari mzungu...*” I turned around to see several small children running behind us, laughing and waving as we sped past them. They were shouting “How are you, white person ?” Being a ‘mzungu’, I knew I stuck out like a sore thumb, which made my experiences all the more interesting.

“*Mzuri!*” I waved back. Everywhere I turned, there was a different sight that caught my attention.

I saw the men driving the cattle home from grazing; the women coming in from the field after a long day’s work; the schoolchildren coming home from school in their blue and white uniforms. The environment here was drastically different from Nairobi. Here, in this isolated piece of Eden left untouched by modernization, life was simple. Some might even call it backwards.

“ These people who live here are of the Luo tribe. They are very friendly. They will be your friends,” John said. “They like *mzungu* very much. They might even want to marry you.”

I laughed, not knowing that I would be receiving 27 marriage proposals before I left.

“They are so nice! Especially the children!” Each person we passed on the road smiled and waved at us.

The Luo tribe is the second largest non-Bantu ethnic group in Kenya. Originating from the Sudan, this Nilotic group has centered their population around the lake. “Where there’s water, there’s a Luo,” my Luo friend Jacob would tell me. The Luo people are famous for their fishing skills, and fishing, along with agriculture, has become increasingly important for subsistence.

We were now nearing the compound, driving next to the lake.

“This place is so beautiful,” I exclaimed, watching the lanterns on the fishing boats lighting up one by one, creating a night city on the water-“The City that never was.”

“Yes, but so isolated. That is why nobody from Nairobi wants to come here. Very lonely-many people who come leave after a short time because they can’t stand the isolation. I’m sure you won’t last more than two weeks.” Dr. Yan was constantly reminding me of this aspect of Mbita, but I had prepared myself psychologically for what to expect after listening to Dr. Yan

and several others, including Dr. Khan, warn me about the loneliness, not knowing what the reality would be like.

It was completely dark when we reached the main gate of the compound of the ICIPE Mbita Point Research and Training Centre. It was the only place in the area that had electricity and running water. Outside of the compound, such things were not to be found. We drove past the labs, the greenhouses, the experimental fields, the apartments, the primary school, to the guest centre on the shore of the lake, where I would be staying until I could move into my own apartment.

I lived on Dudu Avenue-very appropriately named. Being right against the lake, there were so many bugs-and big too-cockroaches, ants, flies, etc. I had my first actual encounter with my six-legged friends the first night I arrived. Getting off the vehicle, I was immediately bombarded with a swarm of lakeflies that tried to get in my mouth, ears, nose, and eyes.

“These lakeflies blow in from two small islands in the middle of the lake. Wait till February. Sometimes, during that time, it gets really bad. They form huge black clouds all around, making it hard to see, and sometimes even hard to breathe if they swarm on you. “ Dr. Yan informed me.

Glad I wasn't there in February.

I watched the stars come out that night. This was a beautiful place, and I could hardly sleep as I looked forward to my stay here and the new exciting experiences I would have.

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## The Gatsby Project

“Over here, you can see the major difference between the maize mono plot and the project plot.” Dr. Khan points to two patches of maize side by side. The stalks growing on the right were short, yellow, shriveled, and covered with striga, while the plot on the left was tall, green, and healthy.

I stepped in for a closer look at the healthy plot. Each row of maize was intercropped with a small clover-like plant, and there was no striga to be found anywhere.

“This is the silverleaf type of *Desmodium*, the plant we use as biological control of the striga weed. Ever since we started this project, we have seen a dramatic decline in the amount of striga and stemborer infestation on the project farms. Combined with Napier, a wild grass, this method can be used versus the chemical sprays which are not practical here in Suba district.”

It was my first day with Dr. Zeyaur Khan shortly after my arrival in Mbita, and he was showing me around the lab and the experimental fields, where he explained to me his current work. Having worked nine years at the International Rice Research Institute, a few years at the University of Kansas, and a period in CIMMYT, he was already a very experienced scientist before he came to Mbita to implement the Gatsby Project. Funded by the Gatsby Charitable Foundation of England, the project focuses on habitat management, using biological methods to control striga and the stemborer. *Striga Hermonthica* is a parasitic weed that is found abundantly around the Suba region. Beautiful but deadly, its roots attach to the root of the host crop, usually maize and sorghum, and feeds off the crops' nutrients, thus leaving the host plant stunted and shriveled. Striga is one of the greatest hindrances to a farmer's yield of cereal crops, usually causing anywhere between 40-70% crop loss. Cereal Stemborers are also among the major causes of crop damage and low yields, not only in Suba District, but in the entire continent,

reducing yields by about 20-40%. *Chilo partellus* and *Busceola fusca* are two of the most common in Kenya, with the latter dominating in the Kitale region, another project site to the north.

In the Suba district, the main staple foods are maize, beans, and sorghum, accounting for 31% of the total arable land. However, striga and stemborer infestation causes an annual loss of 30-40% of the expected total yield.

Because the farmers in the area are subsistence farmers, they do not have the capital resources to obtain certain inputs, such as chemical pesticides, to control the problem. Many use simple, ineffective techniques, such as the use of farmyard manure (cow dung), constant weeding of striga, and sand, or ash. Others simply do not have the awareness to obtain the information necessary for improving their yields.

This is where the Gatsby Project steps in. Collaborating with KARI (Kenya Agricultural Research Institute) and MOA (Ministry of Agriculture), Dr. Khan and his colleagues have been working to enhance food security through a method known as “Push-Pull”, or “Stimulo-Deterrant”. With the planting of wild grasses, particularly Napier (others include Sudan grass and Molasses grass), and Desmodium with the crops, infestation has decreased. The Napier grass is planted around the maize, creating a natural barrier against pests, while the Desmodium plant (either Silverleaf or Greenleaf) is intercropped with the maize. Studies have shown that the stemborer is naturally more attracted to the wild grass than to the maize, thus “pulling” the stemborers towards its leaves, acting as an alternative host for the pest. The Napier grass then secretes a milky, sticky, substance, which entraps and kills the stemborer, leaving the maize unharmed. Although some stemborers may reach the maize, the intercropped Desmodium acts as a deterrant, and releases a smell which “pushes” the stemborers away, back onto the Napier

grass. The Desmodium also is a legume, acting as a natural fertilizer as it fixes nitrogen, while at the same time also preventing striga growth. Furthermore, Napier can be harvested for use as a fodder crop, thus increasing milk production.

With the help of many extension staff around the region, Dr. Khan is working to expand this project so more farmers are able to take advantage of this simple, cost-efficient, yet effective method of pest and weed management. To increase the awareness of local farmers, annual field days conducted by ICIPE are held at project farms, where area farmers, both project and non-project, are able to obtain information about proper habitat management techniques. A substantial number of farmers who have implemented this project have seen dramatic yield increases, and with that comes other benefits as well. In 1992, when the project first started, there were 4 grade cows in the region. Last year, there were 220 grade/improved cows and still increasing, as milk production increased due to increased fodder.

As successful as this project is on the farms where it has been implemented, there are many other farmers who are not able to acquire these methods. Why? If ICIPE and the Gatsby project were providing readily available information to the farmers, how come there were still many who had not acquired such useful knowledge? To answer this question, there is no need for scientific equipment, for fancy experiments, for the latest research technology. What is needed is an understanding of the people, and this is where a different aspect of science is used- Sociology, which is what I focused on for my project.

## **The Influence of Culture and Gender on Household food Security**

One of the first things I noticed when I arrived in Mbita was the magnificence of Lake Victoria. What was more incredible, though, was what I saw next to it- a drought, with shriveled crops, dry soil, and undernourished animals. Imagine- a drought, five meters away from the second largest lake in the world!

Then, I saw the people of the lake region: the women tediously working in the field all day under the hot equatorial sun; the men sitting under the shade resting all day; the women bearing the burden of field work, housework, and the needs of her many children; the men resting in the house, waiting for the wife to come home to prepare the meal; the women walking several kilometers to collect water for the household; the men sleeping. I was already aware of the differences between African culture and western culture, knowing that women have to bear the brunt of this traditional patriarchal society. However, with my increased interaction with the people of the Luo tribe of the lake region through my own project, I gained invaluable cultural insights into a lifestyle that would reflect the need for increased food security, especially household food security. Realizing that there was a direct correlation between culture and food production, I decided to focus my concentration on a completely different area of the Gatsby project- the sociological aspect of agriculture and its influence on household food security.

It was not just a coincidence that while the Luo men idled, the farms were not obtaining maximum yield.

“Women feed the World” is the slogan in these parts: the women do 90% of the work; the men control 90% of the income. There was a direct correlation between the success of the women and the success of the farm. Yet, no matter how hard the women work, they still can not maximize their potential in agricultural productivity, due to many factors, including lack of

awareness of proper agronomic practices and pest and weed control, lack of money, lack of labor, and lack of time. Women needed to be given the proper resources so they could maximize their potential in ensuring adequate household food security. In doing so, I first needed to know the major hindrances of crop production, and how the women could be mobilized to overcome these hindrances. Since the women do not have the same freedoms as men in agricultural decision-making due to the patriarchal society, I also wanted to explore the impact of cultural roles in agriculture, and assess their effect on women participation on the farm, particularly in habitat management.

Thus, with the help of Dr. Khan and his technician, Mr. N.O. Dibogo, from the social science department, I developed a questionnaire to survey the regional farmers about my main area of focus- the influence of culture and gender in household food security.

My survey contained five main objectives that I wanted to address:

1. To identify farmer's basic knowledge on insect pest and striga weed control
2. To identify major food production constraints and their perceived solutions
3. To assess the influence of gender roles in major agricultural activity profiles
4. To know how farmers have access to information exchange about food production
5. To identify, document, and develop factors which can motivate women involvement in improving household food security. After developing and pre-testing my questionnaire, the interview process began.

## **Research Process/Methodology**

“ Bian, do you see the hardships of the African woman?” Matilda asked me as we trekked through a sorghum field in Lambwe valley. She pointed across the field to a very pregnant woman carrying a large pile of firewood on her head, a baby in her arms, and was closely followed by two other children.

Matilda sighed and shook her head.

“ You see, Bian, we African women do not have the advantages of you people. You see, she has to walk several distances to collect firewood for the family, with so many children to look after. Now, she must go back to her home to prepare a meal for her husband and tend the animals.”

By now, I had seen this image of the woman and many others like her many times. I had been interviewing the farmers for several weeks now, and I realized that the culture played an even bigger role in food security than I had previously thought.

While developing my questionnaire, I wanted to know the differences between farms of the Gatsby project-participating farmers versus the non-participating farmers, and how their farms compared to each other.

Thus, Dibogo and I planned to interview 20 participating farmers and 20 non- participating in three main divisions of the Suba district: Mbita, Central, and Lambwe. Each division was a different environment, and the answers the farmers in each area gave me reflected those differences.

Besides Dibogo, I also worked closely with the local government and Matilda Ouma. She was the District Home Economics/Rural Youth and Gender Sensitization Officer in the Ministry of Agriculture, and she accompanied me on my interviews, helping to translate for me. She was

an incredibly knowledgeable woman, and provided me with so much information and insights onto the role of gender as it relates to food security. We would spend our days going from field to field, interviewing the farmers.

It was on one of these days that Matilda and I saw the young woman with the firewood.

“You see how our gender roles affect agricultural production, no?” She asked. “Because of our culture, there are many tasks that a man is not supposed to perform, such as collecting water. It is degrading for them to be seen with a bucket on their head. So now, the woman must do that work and has a heavier workload. This diverts her time away from the field, so she can not maximize her potential in agricultural production.”

As the interviews continued, the relationship between the gender and the farm situation became more and more apparent, especially between the project farmers and the non- project farmers.

In order to compare the farmers’ responses to one another in an equal fashion, I wanted to obtain both the male and female points of view on the issue of culture and its relation to agriculture. Out of the twenty project participating farmers, I interviewed 11 men and 9 women. All twenty of the non-participating farmers were women. This is no coincidence either, that there were more men involved with the Gatsby project than women, and that all the non-project farmers were women, since many women still lack the knowledge to implement these methods. One of the major differences between the men and the women, and between the project farmers and the non-project farmers, is education. While only 9% of the project farmers received zero years of education, 35% of the non-participants received no education. The majority of the non-project farmers received 5-8 years of education, while 55% of the male project farmers and 67 %

of the women project farmers received 9-12 years. Furthermore, out of all 40 respondents, only one man received more than 12 years of education.

The differences in education between the genders reflect the patriarchal society and the culture of the people. Education is very expensive, and many families can only afford to send their sons to school. Also, many young women do not have the chance to finish their schooling as they are married off early. Thus, women do not have the proper knowledge and capital resources for practicing proper and effective agronomic practices, and this lack of awareness is reflected in their farming situation, including the methods of land preparation, livestock ownership, and knowledge of the Gatsby project and IPM (Integrated Pest Management).

The three types of land preparation used by most Suba farmers are the ox plough, hand hoe, and tractor, with the two former ones being the most common. All 40 farmers utilized an ox plough at some point, and 25% of the female non-project farmers also cultivated by hand hoe and only one out of the 9 female project farmers used a hand hoe. None of the men used a hand hoe, which is the most traditional and tedious of the 3. In fact, 18% of the men were even able to use a tractor as a means of land preparation. When asked how they were able to obtain a tractor, the men answered that they had received the education and skills necessary for using proper agronomic practices.

In many African cultures, including the Luo society, cows are considered a basic economic necessity, and are used as a means of showing wealth and prosperity. While traveling down a road, it is common to see as part of the African landscape herds of cows being driven for grazing. Cows provide milk, food, and extra income for the family. Hence, most farming families own at least a few cows. Out of the 40 farmers interviewed, 91% of the male project farmers owned livestock, 100% of the female project farmers owned livestock, and 90% of the female non-

project farmers owned livestock. When looking at the amount of grade cows, however, the numbers were not that equal. While 18% of the male project farmers owned between 1 to 5 grade/improved cows, and 11% of the female non-project farmers owned grade cows, none of the female non-project farmers had grade cows. Grade cows are still being introduced to the area, and again, many women, especially uneducated women, are not able to obtain the resources necessary for owning grade cows. Thus, they must make do with local oxen, which provide lesser quality milk and meat.

## **Research Findings**

Over the past few years, Dr. Khan and his staff have been working to expand the simple yet effective methods of pest and weed control to more local farmers. This survey, like others they have conducted, reflects the differences between the farmers who have implemented this project and those who have not. Those project farmers are more knowledgeable about proper pest control methods, and have obtained higher yields on their crops. Agriculture is difficult work here in Suba, and there are many problems that the farmer must deal with to produce a crop. The two major production constraints are of course, the stemborer and the striga weed, which the Luo people call “kayongo.” 100% of all the farmers interviewed cited “kayongo” as their biggest problem, and all but 25% of the female non-project farmers also cited the stemborer infestation as a number one concern. Weather is extremely unpredictable as well, and sporadic droughts also hamper the possibilities of a bountiful crop, being cited as the third major constraint. Since the Suba farmers are relatively worse off than their counterparts in other parts of the country, such as

Kitale, many of the resources and farm inputs are not available for their use. 45% of the male project farmers, 56% of the female project farmers, and 70% of the female non-project farmers reported that they lacked certified seeds. While 9 % of the men lacked extension services, 55% of the female non-project farmers were unable to contact extension services, such as ICIPE staff, thus valuable information is left unattained.

Other problems of food production include lack of money, lack of farm inputs, soil erosion, and lack of labour. Again, it is the women that bear the brunt of these constraints. Asking them if they knew of any way to overcome these obstacles, they gave me many perceived solutions. 82% of the male project farmers, 67% of the female project farmers, and 25% of the female non-project farmers cited the need for more farm credit facilities, where they would be able to increase investment on their farm and obtain credit to purchase certified seeds and fertilizer. 80% of the female non-project farmers cited the need for more extension services, and 45% of them expressed the need for increasing awareness. Through these findings, we can see that the women want to obtain information, and are willing to work hard to obtain maximum yield on their farm. However, many factors inhibit these efforts, especially since women do not have the freedom as men do in the patriarchal society.

Through my experience visiting the many farmers during my interview process, I was able to observe firsthand the impact of cultural roles in farming, and how these roles limit the women in maximizing their agriculture production. 91% of the male project farmers, 67% of the female project farmers, and 95% of the female non-project farmers all cited that land preparation was done mostly by males. The majority of the respondents also said that pest control of the stemborer was done by males. Women, on the other hand reported doing all the other work on the farm, from planting, weeding, harvesting, to milking. They also take care of the household

duties of cooking, collecting water, and raising the children. When the women must do land preparation, usually by ox, they told me that it was a male's domain and disliked such tedious tasks. Not only would land preparation and grazing a male's domain, it was also too time consuming and would divert time away from her regular duties. When asked to compare the amount of time spent cultivating on the farm, all the respondents told me that the women spend the longest time, approximately nine hours, working in the field each day. The men, on the other hand, spend on average only about three hours each day in the field.

There is no doubt that the women ensure the household food security, yet the responses I received showed that only a small minority of women, especially the female project farmers, were knowledgeable about the application of habitat management through the Gatsby Project. Many of the female farmers had heard of the Gatsby project and knew where to get the appropriate information from the many extension staff, yet, they could still not implement this simple method of pest and weed control to increase their crop yields. This brings us back to the question that aroused the whole survey: Why?

When asked if they knew of ICIPE, the Gatsby project, or similar projects in the area, an overwhelming majority said yes. While the project farmers knew of the usage of napier and desmodium, the female non-project farmers had only heard of it and told me they lacked awareness. All the farmers were willing to try this new method of pest and weed control.

"Do you know where to get the information?" I asked on one of my visits to a non-project farm.

"Yes," The woman replied, "from ICIPE."

"Well, have you been able to obtain the information?"

"No. I am not free to go." She said, looking around to see if her husband was near.

I received many such responses from the women I interviewed. When asked what could be done to increase their participation in food production, 44% of the female project farmers and 45% of the female non-project farmers said that they needed a share in the decision-making over the farm produce and income. Fifty percent of the non-project farmers also expressed the need for more freedom to own fields and control its produce, as well as freedom and support from their husband to attend developmental meetings. Even if the women wanted to obtain information on proper agronomic practices, they could still not obtain and apply it if the men did not allow them. In addition, the workload of the women farmers denies them time away from the field, so some of them are not able to attend seminars or visit other project farm.

### **Discussion and recommendations**

As the saying, “Women feed the World” suggests, the burden of agricultural production falls on the shoulders of the women. Yet, as the research findings have shown, they are the ones that lack the resources to maximize their potential. Women have limited knowledge in agricultural production of proper agronomic properties, such as certified seeds, pest management, etc.

African women do not have labor saving devices, making the work that much more difficult and time-consuming. More importantly, women lack freedom from their male counterparts. Due to their workloads, they are not able to go to seminars to obtain proper information, and many men do not allow their wives to make input on farming decisions and produce and income control. Men have full access and control of the produce and benefits. This inequality in control causes women to lose motivation in their work, since they are only perceived as working for their husbands.

In addition, women also lack credit facilities, so they are not able to obtain the capital resources to invest on their farm.

Since gender roles dictate certain behaviour, men are not supposed to do household work, and only a limited amount of farm work. The direct results of these cultural roles are very apparent. Women maintain household stability. The prosperity of the household depends on the woman, since food is the main concern in the family. If women are not able to maximize their potential, than food production will decrease and the entire family suffers.

As Matilda told me, “ It does not matter how many scientific breakthroughs we have. It doesn’t matter how many extension staff we have. If the women do not have the freedom from their husbands to obtain these resources, than all is wasted.”

Now, the question arises:

What can we do to encourage women mobilization in agricultural production? There are several basic ideas that must be considered:

1. **Education empowerment**-Women must have the knowledge on how to produce, and how to maximize yield through effective pest and weed control methods, such as provided by the Gatsby project.
2. **Farm credit facilities**- Women can not purchase farm equipment and certified seeds without money, which they greatly lack.
3. **Freedom in decision-making**: By giving the women more freedom, we can also increase their motivation in production. Since they are the ones who are doing most of the work out in the field, it is only practical that they should be able to decide how the farm should be managed. Since the woman is responsible of household food security, we can trust that the woman will make decisions that will benefit the entire family.
4. **Freedom in control of produce and income**: Women need to be able to have access to the income that they generate. As Matilda told me, women will ensure that the income will be

spent on necessary items to benefit the entire family, while the men do not have this responsibility, thus wasting the money on other things.

5. **Increase male participation in farming/Increasing the sensitization of men:** Let's face it- women can not do all the work by themselves. Through many interviews, I realized that in order to mobilize the women, we must mobilize the men first. When men are mobilized to work, the production increases, which increase household food security, while also increasing household income. The family is then able to purchase important items, such as medicine and school tuition for the children. When the men are participating in agriculture production, the women are more motivated to work, and also have more freedom to do so. If we want the women to be able to maximize their potential, the men must be sensitized first, so they are more understanding of the woman's needs and allow their wives more freedom in decision-making.

This is easier said than done.

During my interviews, I can recall several distinct incidents where I encountered the cultural differences firsthand. On these occasions, I was involved in a discussion with the Luo men, who were expressing to me their own opinions on cultural roles.

"The woman is like an employee," One of them told me. "We men are like the management, so we deserve to do less labour."

Another man continued. "Women are weaker, so they need to be controlled."

"Well, can you not help your wife in sharing the workload? Do you realize that if there are two people working, than there can be two times more profit?" I inquired.

“Yes, madame, we understand that. But in Africa, we do not do that. Women are the ones who must do the work. Besides, I will be laughed at if the other men see me doing women’s activities.”

The ironic part is that out of all the men I interviewed, 55% of them cited that one of the best ways to motivate the women farmers was to allow the women to share in decision-making over farm produce and income.

Again, easier said than done.

So now, we have addressed the problems. Where do we go from here? What can women do themselves to sensitize the men?

When I asked Matilda this, she gave me an unusually simple answer.

“ Women should continue to work hard, if not harder.” She said. “When women do more work, and continue working harder-through this-men will see the benefits of this, especially the increased income from increased production. For example, you know the project farmer, Mrs. Ouso. As you have observed on her farm, she has managed to increase her maize, with more napier, more milk production, and increased income. Other farmers on field days come to see what the lady farmer has done, so the husband Mr.Ouso feels motivated, feels proud of the action on his farm. So gradually, he changes, they change. Such men, whose wives work so hard, have

more freedom, support to gain new information from seminars. Men have realized this fact. Gatsby really influenced this. This is one way of male sensitization.”

“Well, Matilda, do you think men will ever change their views? I asked.

“Yes, in fact, some men in Suba have started to change like Mr. Ouso. It is a very slow process to overcome cultural barriers.” She said, “But things will be changing. In Kenya, we are politically equal. Men and women have equal opportunity. Only the culture is unequal, and that’s where the problem lies.”

### **Summary**

Before I arrived in Mbita, my views on food security were like many of the outsiders who had their own naïve ideas about helping those in need, particularly in the third world countries of Africa. We should give money, provide the most recent scientific technology, provide outside people to come in and advise, increase awareness, and everyone will live happily ever after.

Not true.

Now, I know that these simple perceived solutions will not and can not work by themselves.

I remember back to a scene during one of my visits to Rusinga, a neighbouring island. The farmers were showing me a vegetable plot near the lake. In the middle of the plot was a pump, the pride of the small village, since it was the only one to be found in the surrounding area. It was a very simple pedal-operated pump, and after a few minutes, the water from the lake would come flowing out through the pipe. However, they told me, the pipe was not long enough for the water to reach the rest of the plot, and it often did not function properly.

“Is there a way to obtain a longer pipe? I inquired. It was a very simple structure, requiring only a simple extension. Even a rubber tube would have worked.

“Oh, we can’t do that.”

“Why?”

“We don’t know how. We have no money. The wazungu (white people) built this one for us, but they are not giving us any more money, so we can not fix this. We must wait for wazungu to come back.”

Throughout my time in Kenya, I had experienced many similar scenarios as that one. The dependency on “Mzungu”, on both national and local levels, has greatly hindered their own development process.

The bottom line is in order to develop the country, as well as the entire continent, it must start from the grassroots- the people. The question is now, is how do we do that?

From my experiences and research findings, I realized the two main constraints to development and food security on all levels, from local to national. First, there was too much of a dependency on “Mzungu”, and foreign aid. We, the developed world, can not just come in and give the people what we perceive to be effective solutions. It does not matter how much money we give them- it is a known fact that federal corruption of these countries guarantee that the funds do not reach the local population where the money is needed most. It does not matter how many professional outsiders come in to develop the native people- if the people are not motivated, than these efforts are futile. It does not matter how much new scientific technology we provide them- In Mbita, and other areas, this has been done, with awful results. The Germans came in to Homa Bay, a town an hour away from Mbita, where they constructed a waste treatment facility fully equipped with some of the latest technology. After they left, the

facility soon shut down, since the locals lacked the skills and knowledge needed to operate such a facility. The people themselves want to run before they can walk: this is not possible. They must be taught the basics first, and more important-how to motivate themselves.

Thus, second, we must mobilize and motivate the people-both men and women. As the research findings indicate, cultural barriers must be broken in order to allow women more freedom to produce. In order to do so, we must mobilize the men first, showing them the great results of working hard and taking initiative to increase food production. After visiting a farm one day, the farmer grabbed my hand. "When are you coming back?" He asked. "Come back and live here. We need your knowledge. You people so smart-you can give us the money and resources we need."

I wish I could, but development and ensuring food security can not be done by me alone. Nor can it be done simply by the UN, the US, the World Bank, or the IMF. We can try, as I tried to do. I finally realized, though, that the most we, as outsiders, can do is facilitate. It must start from the people. The aid can only last for so long- in the end, the people are left on their own.

We must help them to help themselves, to dispel the belief that "Africans are their own worst foes." During my time there, I observed what is known as the "vicious cycle of poverty." The general mentality is that since the Africa, as seen in Mbita, is a rich continent. There is the lake, which provides an endless amount of water. There is the climate, which provides optimal growing seasons. There is the growing population, which can provide an abundant supply of labour. Yet, there is still a drought; there is still starvation; there is still a lack of food security. They have the resources.

Now they must learn to use them.

Encouraging a culture to change is indeed a slow, difficult process, met with many obstacles along the way. As the sociologist Robert Garner said, “Development is a state of mind. People have to develop themselves before they can develop their physical environment, and this is a slow process.” Yet, there is no disagreement that the culture and the mentality of the people make up the foundation needed for rural development to ensuring food security.

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On my last night in Mbita, I paid a final visit to the lake. As I stood out on the pier, watching the setting sun cast a golden spell across the horizon, I recalled back to my first night there. Everything was so fresh, so new, so exotic! Now, as I watched the night ‘city’ illuminate the water, I could still feel that incredible sense of wonderment. Only this time, after two months of living and breathing Africa, the feeling was not of the hopeless romantic type. Instead, it was deeper, wiser. I was still in awe of my surroundings and fascinated by the culture and environment-yet, I had encountered enough to understand the inner problems within the outside beauty, and thus looked at the land and people from a different perspective-with an even greater amount of respect. In order to understand a place, one must understand the people. I was so fortunate to have been able to have the real African experience- the experience of the people. I will never forget the people. Deep down, despite all the hardships they faced, there is still an inherent optimism within them, which is reflected in the carefree laughs of the children, the gentle smiles of the elderly, the kindness and generosity of everyone. It isn’t about helping just the “people” anymore. It is now about helping Dibogo, Matilda, Rebecca, Jacob, and all my friends who have so strongly influenced my perspectives on life and how I view the world and just how lucky we are to live in the first world.

Before I came to Kenya, I already knew that I was going to have an incredible experience.

After I arrived, I soon learned that the political, economic, and social situation was a lot worse than I had initially expected. My experience, however, was ten times more incredible than anything I could have ever previously conceived of. The things I did, the places I traveled, the sights I saw, the people I met- all culminated into an extremely worthwhile, life-altering experience. I had learned about so many things-the scientific projects, the people, the culture, how to improve food security. But most important, I learned about myself-who I was, how I saw myself, and how the rest of the world saw me. I felt myself growing from within.

It was completely dark now, and the islands cast soft dark shadows onto the lake. The waves were crashing unto the rocks on the shore, droning out the calls of the fishermen. I don't know why I was so fascinated by the lake, or why it always seemed to draw me in. Partly because it was so beautiful, a last remaining symbol of paradise-heaven on earth. Partly because of what it meant to the land-a huge unlimited supply of fresh water-a security blanket-a reassurance of the generosity of nature to provide such bountiful resources to where it was so desperately needed. Yet, the drought was still five meters away.

I turned, and walked slowly away from the pier. Tomorrow morning, I would be leaving this place, but the Luo people would still be there, and so would the lake. I will be waiting to see what happens.

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