

**World Food Prize: Borlaug-Ruan International Intern**

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Internship: Chennai, India

At: M.S. Swaminathan Research Foundation

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## **Final Report:**

“Sixty days. That is a long time. I better think differently, perhaps I should use smaller numbers like eight weeks or two months. There, now that is reasonable.”

These were my thoughts as I first boarded the plane to Chennai, India. I knew that now there was no turning back, literally. I had not been nervous or had second thoughts from the second I received my congratulations letter. In fact when I received the letter around March I immediately began jumping up and down and running throughout my house with a smile that looked as though I had too many botox injections. As I was running throughout my house I could not speak because my face was so tight from smiling and it took me a few minutes of pushing down my cheek bones before I could even share the news with my family. Now that it was actually happening, the story was different. The longest I have been away from my home was four weeks and that was a year ago; in addition, it was in the United States. I was not ready for any of it and yet I had prepared for it all to such a great extent. I was nervous about the plane ride. What was I supposed to do for almost twenty hours by myself? Who would I talk to? I could not call my parents and everything just was not feeling normal. But like I said, there was no turning back now.

## **I. Introduction**

Unlike most people I cannot say that I am a “small-town,” “farm,” or even a true “city” girl. I can only classify myself as a girl crossed between two worlds that typically do not intertwine. I have always lived in one of America’s great and historic cities, Philadelphia, Pennsylvania. I know and understand the city life and the constant “hustle and bustle.” The cultural diversity is the most admirable thing about living inside a United States city. I have never once felt out of place in Philadelphia because of the color of my skin and what is even greater is that people are (or at least they seem to be) always open to new ideas. However, while I can master the bus schedule, the underground subway transit system, the rush of day to day life, and maintain the bold confidence of any teenager who truly believes they can do anything, I am also an agriculturalist. I do not live on a farm. In fact I live in a twin house with a tiny back yard. I work on two farms – one is only four miles from my home and is where I have worked with large animals (cows, sheep, and swine) through the Manatawna 4-H Club since I was seven years of age and the other farm, only two miles from my home, is a part of my high school. I attended Walter Biddle Saul High School of Agricultural Sciences and for the past four years I have been expanding my agricultural knowledge not only through my active involvement in the FFA, but by reading related textbooks, and, more importantly, completing field work. The field work consisted of: growing and harvesting crops through my school’s Community Supported

Agriculture (CSA); tilling soil; weeding vegetables; operating and repairing machinery; and working with horses, miniature donkeys, dairy and beef cattle, swine, sheep, small animals such as mice, rats, dogs, hamsters, gerbils, guinea pigs, and even an iguana. The high school that I attended is particularly unique because of the rich agriculture education that it provides to students throughout the city, students who sometimes unknowingly mistake a cow for a bear. Upon graduation even if the students do not choose to become involved in agriculture they will without a doubt have an appreciation for agriculturalists everywhere.

I was privileged to attend the World Food Prize Youth Institute in October 2009. However, my attendance was not a simple process. In fact my main incentive to attend was the knowledge that I could potentially receive an international internship. In the summer of 2009 Mrs. Jessica McAtamney, my Advanced Placement (AP) Environmental Science instructor, my cross-country coach, and, above all, a well respected friend, asked me if I would like to attend the World Food Prize with her. Initially I thought “YES” but then I became logical with my thinking. I knew that I had applied for a spot in the FFA National Chorus and the conferences would overlap, I would be missing over a week of school in October (due to livestock shows, conferences, and running races), I would go crazy trying to become involved in yet another activity, I would have to write a paper in the summer and I still had not finished my AP English summer assignment. It did not make sense for me to just say “sure, no problem.” Perhaps I do not make sense, because that is exactly what I did once I realized that the FFA National Chorus began on Saturday evening in Indianapolis, Indiana and the World Food Prize Conference would be completed on that same Saturday morning in Des Moines, Iowa. I could easily catch a flight between the two events and manage to do both, and that is exactly what I did! Upon my completion at the Youth Institute I was hesitant to pick up the internship application, in fact I was very hesitant. I knew that if I picked up the application it might only lead to a life of greater complexity than I could possibly handle. Ever since my freshmen year of high school I had dreamed about becoming a Pennsylvania FFA Officer and since 2008, my first time attending the FFA National Convention, I knew that not only did I want to become a state officer I wanted to be one of the six officers to represent the entire United States, Puerto Rico and the Virgin Islands. If I picked up the Borlaug-Ruan Summer Internship application then I would be tempted to apply. Meanwhile, I was in the process of filling out scholarship and college applications and trying to maintain my class rank as valedictorian. The last thing I needed was the responsibility of completing yet another lengthy application that required nothing less than perfection. In addition, if by chance I would be selected to receive the internship, I would have a very hard decision to make: would I go to another country or would I serve as a state FFA officer so that by 2011 I could run for a National FFA Office? Mrs. McAtamney told me something that I will never forget. She said, “You can always decide later, it never hurts to try.” That is what I did. A few months later I received a letter saying that I made it to the interview round of the selection process. I was excited and I downloaded Skype onto my computer so I could do mock interviews with somebody else. I wanted to be professional so I practiced the positioning of my computer so it

would look like I had direct eye contact with the person who I was talking to and I learned that my computer does not do a great job in picking up my voice so I bought a headset. The day of the interview I put on the top half of my FFA Official Dress and I made sure my hair was well put and then I waited anxiously beside my computer. In addition, I was ready for anything. I had a glass of water right next to me. I had sticky notes around the border of my computer that reminded me of things to say in case the interviewers did not ask. As I said, I was prepared.

## **II. Internship Location**

When I was getting ready to hang up at the end of the interview I made sure to tell the staff at the World Food Prize that, although I wanted to go to Africa, I would be pleased and honored to be selected to go anywhere. After all, the only reason I initially mentioned Africa is because I have little knowledge outside of the United States and everybody always seems to be drawn towards Africa. It seemed like the reasonable response. My thinking is a little cliché because that is the same reason that I did not choose an African country to write about for my Youth Institute paper the previous summer. In fact I choose Yemen by looking at the list of developing countries, eliminating all African countries because I wanted to be different. That was my highly intelligent decision process. I began researching everything I could about Yemen and I quickly became intrigued. I was surprised by the statistics I learned about on topics such as: unequal gender roles; hunger; water scarcity; that people actually kill one another over water conflicts; and the alarmingly low education levels.

A few weeks after the interview I learned that I would be going to Chennai, India and I was ecstatic. I knew that the competition was challenging for this prestigious internship program and I was thrilled that the selection committee had selected me. Becoming a Pennsylvania FFA Officer would have to be postponed to next year because I was going to India!

I landed in Chennai at around 11:00 pm. I knew that although here it was night time, I was not ready to go to sleep. I was intrigued by everything and I began asking the cab driver many questions and then I realized that he did not speak English. So I just kept my thoughts to myself. Thoughts like: “Why is everyone using their horn? It is the middle of the night.” “Why is everybody staring at me?” “Is it always this hot here?”

The M.S. Swaminathan Research Foundation (MSSRF) was the Host Center where I lived and worked in Chennai. In the Chairmen’s Introduction on page 4 of the 2008-2009 MSSRF Annual Report there is a direct quote from the Programme Review Team that does a fabulous job in describing MSSRF.

*“MSSRF is a unique non-governmental organization, combining modern science and action research, working with society using community organizations and individuals while also using their traditional knowledge. Thus MSSRF has no parallels in its*

*entirety. Its activity and influence have a broad reach and the Institution has established substantial credibility in specific areas ranging from the global to the local levels.”*

MSSRF has been in existence for twenty years now and Professor Swaminathan was the first World Food Prize Laureate. He is the man who hybridized rice and is known as the Indian Father of the Green Revolution. Professor Swaminathan has helped to feed millions of people, and that is truly impressive.

When I finally arrived at the MSSRF Guest House the cab driver helped to take my bags. He took the suitcase which had wheels; meanwhile, I was loaded down with several different bags across my shoulders and clutched in my hand. Once I entered I was curious to see several people resting on the floor. Then Moses, the person who is in charge of management, told me to sign something but I had difficulty understanding and it took at least 10 minutes for the correct communication to sink through. I felt like a horrible person because I woke these nice people up in the middle of the night, everybody was looking at me, and then I could not even understand directions to sign my own name. That was not the worst feeling of it all. The worst feeling was when Moses directed me to my room, a lovely room and not the floor. I felt guilty and completely undeserving. When I entered I saw that not only did I have a room with a bed, I had three rooms: a sitting room with a computer, a refrigerator, fruits, a couch, and two chairs; a bedroom; and a bathroom. I actually think I would have preferred sleeping on the floor as it would have been preferable to knowing that I had been given a more comfortable residence than the others who were less fortunate.

### **III. Assigned Programs**

The next day I woke up from my sleep at 3:00 in the afternoon. I felt irresponsible. “I am supposed to begin my work today.” I went downstairs and I started asking people “Do you know where I am supposed to be?” I was unsure to whom I was expected to report or how I was supposed to find them. I thankfully met Dr. Sudha Nair who is the Senior Director of the JRD EcoTechnology Centre. I also met Dr. Rengalakshmi (I was allowed to call her Renga), who is the Principal Scientist also at the JRD EcoTechnology Centre. Both Renga and Sudha kindly supervised me this past summer. I was invited to have tea which I found slightly peculiar because at home I only drink tea or coffee when the temperature is cold and here in India it is definitely not cold. I enjoyed the tea and then we discussed my work plan.

I knew that I wanted to focus on agriculture production as opposed to lab work and I also wanted the ability to make a production comparison to the United States. It was suggested that I focus on maize production and I liked that idea because it is the staple food in America. In addition, I wanted to pay particular attention to Indian youth in agriculture, especially since agriculture is the most important industry. If there is not a lot of youth involved in agriculture then I have to wonder, “Who is going to feed India’s expanding population of over 1 billion people in the

coming years?” During the first week I began going to the library and reading everything that I could in relation to maize and youth in agriculture. After a lot of reading I created my project abstract which basically summarized what I planned to do and what I hoped to learn from my internship. In addition, it contained a list of questions that I wanted to ask farmers.

#### **IV: Goals & Missions of Programs & Abstract Report:**

##### Hypothesis:

- By the time I complete my work I hope:
  1. To develop an understanding for the way maize is produced in Tamil Nadu, India and
  2. To study the interest and participation of youth in agriculture

##### Objective 1: Maize cultivation

- To develop an understanding of how Indians produce maize
  - Do they use hybrid seeds?
  - Observe amount of space for crop growth
  - Is water accessible?
  - What are the methods for irrigation?
  - What methods are used for weeding? How often are they used?
  - Develop a conclusion in terms of the pesticides/herbicides used –if any
  - Is it proportional?
  - How harmful is it to the environment
    - Run-off
    - Degrade soil?
  - Do they affect the public health?
- Work with farmers in maize production
  - Determine the roles of women & men
- Compare corn production in India to that in the United States

##### Methodology

- Create an interview questionnaire to be answered in yes/no format, discussing with men and women farmers, participant observation, Focus Group Discussion etc.

Objective 2: Youth in Agriculture

- Observe and interview age groups of farmers
- Specifically focusing on the younger generations in agriculture

General data to be collected

- Determine the % of land use for: agriculture, housing, other
- Estimate population comparing women, children, men

Interview questions: Youth in agriculture

- Do you enjoy agricultural work?
- Did you choose/want to work in farming?
- Is the work physically straining?
- How did you become involved in agriculture?
- Is your work profitable?
- What is your education level?
- Where did you learn to farm?
- Where did you obtain your seeds?
- What is the plant diversity?
- Do you use hybrid seeds?
  - If so, what type?
- How is the produce distributed/sold?
- What is maize used for?
- What is the labeled value of your produce?
- Do you encourage/promote the agriculture industry?
- Do you feel that you are benefitting society?



- Do you feel that the production methods are efficient?
- If you could, what would you change?
- How many hectares/acres of land do you farm?
- How old are you?
- What is your primary water source?

#### Additional Questions for Women Farmers:

- Would you prefer to harvest something other than maize?
- How much of the work do you perform?
- Are the tools sufficient?

#### **Exposure Visit:**

My work visit was to Kannivadi which is in Dindigul Junction. I went to Kannivadi about a week before my actual work began and that was only for a two day visit which provided me the opportunity to attend a Self-Help Group (SHG) meeting and the opportunity to meet with a variety of farmers. Renga described it to me as an exposure visit. Self-Help Groups are groups of up to 20 women, designed for women to create another source of income for their family. Today it is estimated that there are over 2 million SHGs in India. During the meeting in Kannivadi I only understood a few words like “*Vanakkam*” which is a general greeting and “*nandri*” which means thank you. I also knew to clap when other people clapped and I was able to interpret the basics with the help of Renga’s translations. I also learned that each separate SHG could be classified by their personalized sarees. I thought that was unique. The next day I traveled throughout Kannivadi visiting farmers with Hema, who works in the JRD EcoTechnology Centre. The first farmer produced onion seeds to sell to neighbors. In addition to producing seeds, he grew sorghum which was used as fodder for livestock. When speaking of him or any other farmer here for that matter I should not say that he is the farmer because that implies that he has the dominant role when in fact on most Indian farms it is the wife who does the majority of the work and the husband who receives the recognition. The next farmer I met was a coconut and banana farmer. I was fascinated because I have never seen bananas or coconuts on a tree and I learned that there are over 100 bananas in just a single bunch. Also, during my time in Dindigul I learned that bananas are commonly given to people as a sign of respect and are always used at festivals and ceremonies. In addition, people in villages eat off of banana leaves and they use banana leaves for traditional Indian weddings. This same farmer

used a really long pole to knock down tender coconuts from a tree and then used a blade to cut open the top and Hema and I were able to drink straight out of the coconut, it was “*naladka*” (very good in Tamil.) The next farmer was a silk farmer who also produced mulberry leaves to feed to caterpillars. Silk farming is important to Indian culture because the silk is used to make beautiful traditional clothing like sarees. Afterwards we visited a maize farmer and then a jasmine farmer. Only the jasmine farmer was under the age of 30 and he said that he definitely receives a regular profit. That makes sense because Indians use flowers for everything – events, important ceremonies and temples, and most women have Jasmine flowers tied in their hair.

### **Work Visit:**

The following week I went back to Kannivadi and I had my questionnaire in hand. I was ready to talk and work directly with the farmers. I quickly became frustrated because I learned that since I was a guest I was not permitted to do manual farm work. However, I did a great job of observing practices and techniques and I gained a lot of valuable information from my interviews. The week in Kannivadi flew by. In fact it was so fast that I didn't have time to interview as many farmers as I wanted to. So the following week Renga retyped my questionnaire in Tamil so that way it could be given to the farmers and then the data would be reported back to me so I could have a sufficient report. While I did not do a lot of direct farmer interaction, I acquired a large amount of knowledge about Indian agriculture and the village. I went to a Village Knowledge Center which is used as a resource center for farmers. Farmers go there to meet with other farmers, use the computer to watch tutorials on farming practices, and learn production methods that are more efficient. One of the days there I spent traveling with Mukilan, who works at the MSSRF branch office in Kannivadi. Mukilan took me to visit several types of SHGs. The first group was involved in Integrated Pest Management. There they grow insects and put the eggs on little yellow cards. These cards are then sold to farmers who post them throughout their fields. When the insects hatch from the cards, they can eat the pests who are eating the crops. I was definitely intrigued by all of the insects and that it goes directly to the farmer. This is because not only does it go directly to the farmer, it has many other benefits, provides income to the SHG, is more affordable for the farmer than pesticides, and it is sustainable. The next SHG that I visited makes paper. The paper is made from recycled material such as: paper waste; banana waste; and cotton waste. Every day the women make a new color of paper and the paper is used for greeting cards, invitations, and many other purposes. This may not seem that important but cards are standard in India. This is because for just one wedding alone over 1,000 invitations must be sent out. The women let me help them to make a few sheets of paper. I am sure that I slowed down their systematic operation but at the same time I provided them with amusement as they watched me learn. Needless to say, I had fun. Afterwards Mukilan took me to a bio-fertilizer group where the women use media and chemicals to produce the fertilizer and distribute it to farmers. I admire the SHGs because the women have pride in what they do and they are, without a doubt, making a difference. On my way to visit one of the

temples with Ravi, Devaraj (both of whom work at the Kannivadi branch of MSSRF) and some of the women from Puduppotii (one of the villages in Kannivadi) and I stopped and had the chance to meet several farmers. One evening, I went with one of the farmers closely associated with MSSRF, Calla (I do not know his full name but this was how he was introduced to me), to visit more farmers. He did the interviews for me in Tamil while I recorded them with my video camera so they could be interpreted later.

On my train ride back to Chennai I reflected on my week and I felt a mixture of feelings. On one hand, I was completely humbled and graced by the presence of the people and on the other hand, I literally hated myself for having so much. I hated that I, somebody who comes from a United States middle class family, could come here and be treated as royalty. I hated that the people here who do not have a lot of material possessions made sure they gave me something. People everywhere would give me food because that is what you do for a guest. However, even though I was not hungry, I ate because otherwise it would have been a sign of disrespect. I hated that I was in India through a program that is about fighting global hunger and here I am eating so much food knowing that there are people throughout the world and in the very village that I was in who were hungry. I hated that these people have so little and yet they gave me so much. I hated that at my house I used to think the size of my bathroom was small and now that I am in India I realize that my tiny bathroom at home is easily half the size of a person's house here. In fact I hated that I had a bathroom, both in my house and in my room at the MSSRF guesthouse, because here I have seen too many people without the comforts and standards of sanitation that I am used to in the U.S. I have watched children run around naked because they do not have a lot of clothes. Many people do not wear shoes in the village, especially children, and I saw one girl who had shoes but they were easily twice the size of her foot and she had trouble walking in them. I did not know whether to be grateful that she had shoes or sad that she didn't even have a reasonable size. I felt guilty that I was so blessed with a comfortable home and plenty to eat.

## **V. Background of People with Whom I Worked:**

At MSSRF I was incredibly grateful to have so many people who I could go to with any questions. As I have mentioned earlier, I studied primarily underneath Renga and Sudha from the EcoTechnology Centre, and they guided the actual work part of my internship. However, all of the people there have easily become a family for me. I made an effort to talk with everyone because every person has a story, a different interest and is one more person who I can learn from. During my first week in India, I attended the Second Youth Indian Science Congress. The day before the conference I was introduced to Ganga, who would be in charge of guiding me for the next three days at the conference. Ganga is 24 years of age and she is working on completing here PhD in the Microbiology Lab at MSSRF. I knew that Ganga would either like me or that she would dread having to be responsible for my wellbeing. So I made sure I was especially nice and we got along really well. She introduced me to the other people who work in the labs. They

are now all my *Annas* and *Akkas* (Anna means big brother and Akka means big sister). After meeting them at the Youth Science Congress, I spent more time in the labs asking questions like: “What is the media for?” and “You really grow bacteria?” At some times I thought I asked too many questions but, to me, every moment was another opportunity to learn something new. Although Renga and Sudha were the people to whom I was responsible to report regularly, I used everyone at MSSRF to teach me things about Indian culture, foods, how to eat with only my hand, ceremonies, Tamil language (both speaking and writing), agriculture practices, and about their jobs at MSSRF and how they are helping to make a difference. I have become most attached to the people in the Microbiology Lab who have made me their *thangachi* (younger sister).

## **VI. My Responsibilities/Contributions:**

While at MSSRF my responsibilities consisted of gaining as much knowledge as possible in terms of Indian agriculture and the culture. While I learned a lot, I was also responsible to collect data during interviews and I made myself responsible to update my online blog daily. My contribution to MSSRF largely consisted of my outgoing and positive personality. I always greeted people in the morning by saying “*Kallie Vanakkam*” and throughout the day, wherever I would go, I walked around smiling. I easily talked with anybody about anything and people seemed to really admire that. I even talked with the security guards and the kitchen/management people who had no English skills, this was a challenge but fun. The ma’am in the Microbiology Lab, Prabha, told me that she appreciates my boldness. That was a huge compliment for me to receive from her especially because she is a tremendously accomplished woman who has her PhD. Prabha even invited me to her house for dinner, which was *kaaram* (spicy) but *naladka* (very good). When I compared myself to the people at MSSRF, I saw several things: 1) I was the youngest person there; therefore, I had an incredible amount to learn. 2) Everyone there can be easily compared to a genius (I am truly in awe at the amount of knowledge that they are able to absorb). 3) The people there always made time to help each other. About two weeks before the conclusion of my internship, I woke up early and posted “*Vanakkam*” in the Tamil font all over doors to the labs as well as in the JRD Eco-technology building. I didn’t put my name on the paper but somehow everyone figured out that it was me. I tried to perform little acts of kindness just to let people know that I appreciate their culture and their willingness to help me.

## **VII. Research & Results in Relation to Food Security:**

I have created a chart on Microsoft Excel that clearly lays out the results of all of my interviews with maize farmers. My data consists of 30 interviews and of the thirty, I found some alarming details. Only 8 of the people interviewed are below the age of 40 and only one of those persons is in her twenties, only 5 farmers were females and only 6 of the farmers completed 12<sup>th</sup> grade.

Most of the farmers began farming because it was passed on to them from their parents and because of a lack of education, which limited career paths. Most of the farmers who I talked to said their children do not want to be involved in agriculture because there are too many unknown variables such as: rain for the crops; market prices; seed viability; and the work is not consistent and it is very physically strenuous. Their children would rather study and get a career in something other than agriculture. I understand their thinking and I cannot say that they are wrong, but at the same time I see a need for youth involvement in agriculture now more than ever. Youth involvement is essential because our population is expanding and right now our consumption is larger than the amount of our available resources. At the very minimum, we need a balance so we can have a level of reassurance.

In comparison of agricultural practices, I found that all of the farmers interviewed rely on well water for irrigation, and all of the farmers produce maize primarily for animal fodder, with the possible exception of one farmer who said he didn't know what it was produced for. Most of the farmers do not farm more than 4 hectares; all farmers except for three (who left the question on the questionnaire blank) said they use hybrid seeds. 30% said that their work is not profitable. However, while the income normally does not outweigh the initial expense cost, 90% say that they promote the agriculture industry. I am grateful for their support in agriculture but I am concerned about their personal level of confidence. Only 62% feel that they are benefiting society and one farmer said directly that "Agriculture is useless."

The agriculture practices and thinking in the United States is completely different. For starters, most of the small farmers at the very minimum use a hose for irrigation, whereas large scale/commercial farmers have everything mechanized so that all they have to do is push a few buttons and their crop is watered. More farmers rely on drip irrigation, which is good because it wastes the least amount of water and goes directly to the crop. Maize in the United States is used largely for animal feed, fuel for vehicles, and as a staple food for people. I do not believe that it is morally correct to have cars consume what can be food especially because many people in the world are hungry and malnourished. American farmers typically have at least 50 acres of land and use several different tractors. A similarity is that they use hybrid seeds. Although the contrast of rupees to dollars is 47 to 1 I learned that farmers everywhere across the globe feel that they are not making much of a profit. The American farmer feels that they are benefiting society and that is because they can produce a large quantity of food and that can be used for food aid.

My research on the Indian maize farmer provided me with a brief global understanding of agriculture. I have been privileged to work with many farmers and complete interviews and observations. Currently I am a student at Penn State University, with a major in Agricultural Education and a minor in International Agriculture. Ever since I attended the Washington Leadership Conference, (a national FFA Conference), and the World Food Prize Global Youth Institute in 2009, I have become more passionate about agriculture than I ever thought was possible. When I receive my degree, I want to travel the world and work with farmers to help

implement ways to improve their agriculture methods and to gain an understanding of how farmers view their work. When I get exhausted from the traveling (which will most likely take a long time), I want to settle down and become an agriculture teacher so I can encourage students to develop a need to be involved in agriculture. My sister has a shirt that reads “Naked and Hungry” on the front and, on the back, has a picture of a censored naked man with a caption that asks “Where would we be without agriculture?” The truth is we, meaning everybody, would be naked and hungry without agriculture and therefore it is essential that we help to mold more agriculturalists because any individual, every individual, can make a difference.

### **VIII. How This Experience Changed Me, Helped Me Grow, & Impacted My View on Food Security:**

This experience has made me grow more than I thought possible. I left the United States in June feeling prepared for everything with which India would challenge me. I arrived and realized that I was not the slightest bit prepared as I had imagined myself. I have met the happiest people in India and, ironically, the happiest people seem to be those who have the least. I have seen the drastic domestic contrast of people who live in beautiful, large homes living next to people in a straw hut. I have seen people who were homeless. Granted, I have seen homeless people before in Philadelphia, but here in Chennai the number seems to be significantly greater. I have seen hundreds of stray dogs whom I do not even dare look in the eyes because they look sad and unbearably thin. People told me that I would see cows on the roads in India and I was excited to see that, especially because I work with cattle through my 4-H Club. However, when I saw the cattle in India, instead of feeling anxious and amused I felt a deep churning feeling in my stomach. These cattle were roaming free or standing along the side of the road walking wherever they pleased and eating tiny patches of grass or weeds that were covered in litter. In America cows are always neatly tucked inside a barn or in a green pasture with plenty of food. I have seen people hungry and malnourished.

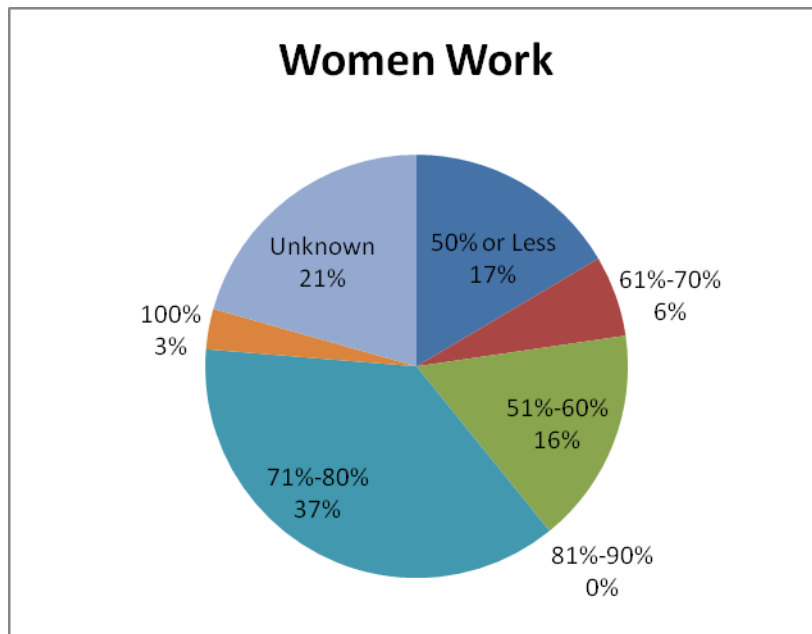
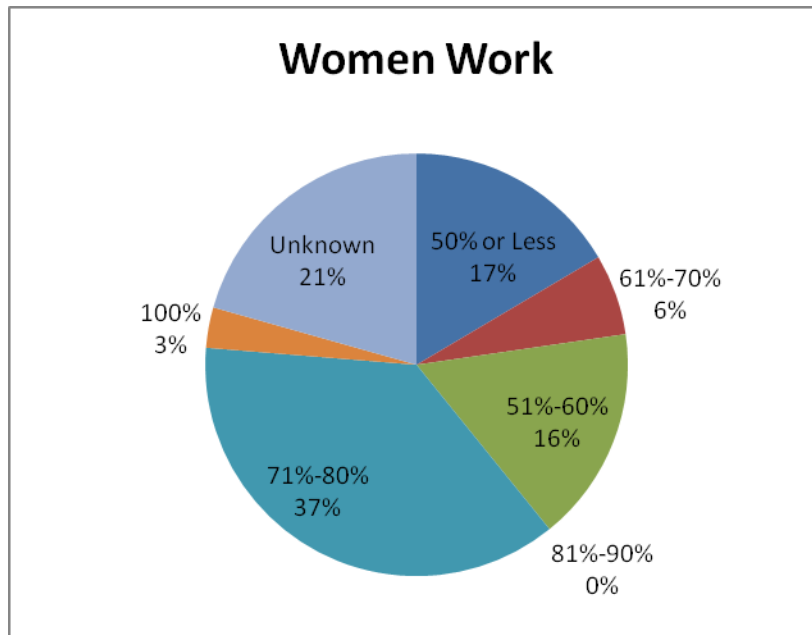
For the past few years I have developed an interest in food security. This interest developed in such a way that I have never told anybody. This interest made me want to be a better person. Here is the story. It was a few days before I began 10<sup>th</sup> grade and I just had to get a new pair of shoes because that is what you do for the first day of school. Anyway, I was with my sister and we went to the Gallery and did what most girls love to do – shop. In addition to shopping, we stopped and got some food along with a bottle of Cherry Coke. We left the Gallery and began walking to the bus stop. There was a man sitting on the ground who looked at me and said “Can I have something to drink?” I had drunk most of the soda but there was still a little bit left. Instead of giving it to him, I walked right by with my sister and we pretended that nothing had happened. In fact, we ignored the situation completely, as if we were better than him. I pretended and tried to forget, but the truth is that it hit me really hard later. I thought to myself

“Who am I to deprive a man of something to drink when I should have given it to him. In fact, if I was thirsty later I could have bought something else, after all I had money and he did not.” I reluctantly drank those last few drops of poison because if I did not, then I would really be wasteful and the entire situation would be nothing short of pathetic on my part. At that moment I decided that I did not ever want to feel like I was depriving somebody of a drink or of food. I do not necessarily approve of giving money to beggars, but food pulls my heart in a whole new way. This past year, I was on a bus and I had a bottle of water in my hand and a man looked at me and politely said “Ma’am, can I have some water?” This time I gave it to him. I acknowledge that while I may come from a different background than other people, there is nothing at all that says I am better than someone else, and there is especially nothing that says I deserve food or clean water when somebody, when many people, are hungry and malnourished.

Through my two month internship in Chennai, India, I have witnessed hunger and poverty at a whole new level. I have without a doubt become more motivated to make a difference and to do my best to help feed the world. This ambition starts with understanding and those short 60 days have ignited me with both an understanding and a passion.

I am a female agriculturalist, and I believe that anybody, anywhere has the power to change the world, and if we--human beings--learn to work in sync, then truly we can and we will make this world a better place.

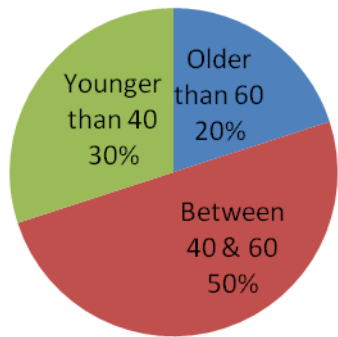
**Data**



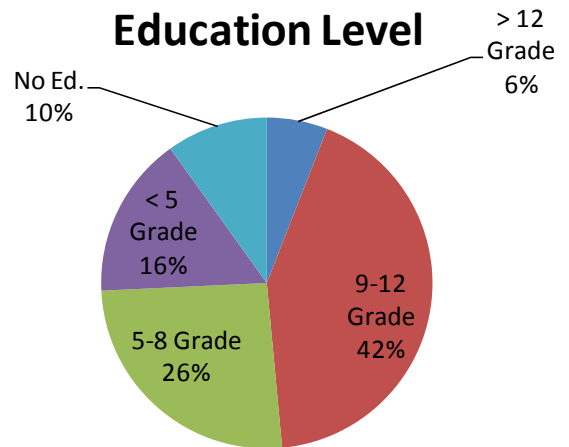


### Data

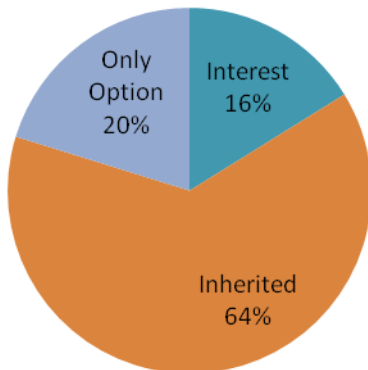
#### Age of Farmers



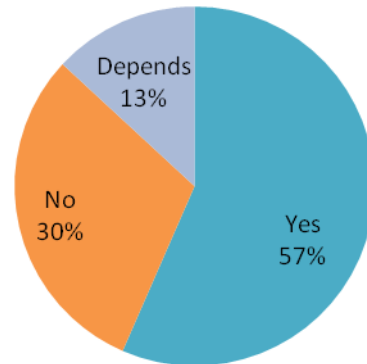
#### Education Level



#### Involvement



#### Profitable



**Data**

<b><u>Farmers:</u></b>	Male = 25	Female = 5	
<b><u>Average Amount of Land/Farmer:</u></b>	3.16 hectares		
<b><u>Enjoy Agriculture Work:</u></b>	Yes: 29	No: 1	
<b><u>Continue in Agriculture:</u></b>	Yes: 30	No: 0	
<b><u>Work Difficult:</u></b>	Yes: 20	No: 6	Both: 4
<b><u>Involvement:</u></b>	Interested: 5	Inherited: 19	Only Option: 6
<b><u>Profitable:</u></b>	Yes: 17	No: 9	Depends: 4
<b><u>Obtain Seeds:</u></b>	Shop/Market: 18	Other: 6	
	Reddiarchataram Seed Growers Association (RSGA): 6		
<b><u>Hybrid Seeds:</u></b>	Yes: 28	Unknown: 2	
<b><u>Use of Maize:</u></b>	Animal Feed: 28	Unknown: 2	
<b><u>Average Income:</u></b>	32,562.50 Rupees		
<b><u>Promote Agriculture:</u></b>	Yes: 28	No: 2	
<b><u>Well Irrigation:</u></b>	Yes: 29	No: 1	
<b><u>Use Machinery:</u></b>	Yes: 20	No: 5	Unknown: 5

## Pictures

	<p>My first time eating with my hand. It was a challenge but I quickly progressed.</p>
<p>Learning how to play cricket from my <i>Annas</i> (older brothers).</p>	
	<p>The typical wells used for irrigation. Irrigation was done largely through channels in the fields.</p>
<p>After drinking the tender coconut we always ate the coconut pulp.</p>	



Cocoons from the silk farm.

Children in the village who followed me around.



View on the way to a temple in Kannivadi.

Egg Card for Integrated Pest Management.



	<p>Learning how to make paper from one of the Self-Help Groups.</p>
<p>Farmer Calla interviewing the maize farmer in Tamil. (I was recording)</p>	
	<p>My <i>Annas</i> (older brothers), <i>Akka</i> (older sister), and myself after my seminar presentation.</p>
<p>Professor Swaminathan, myself, and his wife Mina. After a lovely dinner in their home.</p>	

## **Mikka Nandri (Thank You Very Much)**

I started off my internship slowly counting down the 60 days. I finished the internship wishing I could add on several more months. I truly had the best experience of my life and fell in love with India. I learned so much about myself and where I belong in this world. I learned that I have two hands that can be put to work and a mind that has no limitations. I hope to go back to India and start an FFA program to ideally motivate youth to become involved in agriculture which will, without a doubt, dramatically improve their society. A year ago I would not have dreamed this big. However, now, through the World Food Prize I have been able to network with people, grasp a global concept, and gain an understanding of obstacles I will have to face.

The people at the World Food Prize are truly phenomenal and I am tremendously grateful to all of them.

*Ambassador Kenneth Quinn:* Thank you for your motivation to constantly better a terrific program and thank you for truly caring about every intern and our experience. During the orientation in May you instructed the parents to talk with their kids before they left because we would not come back the same persons. I thought that I knew who I was and I would not be changed. Well I was wrong and you were right. I came back a better person!

*Lisa Fleming:* You are a wonderful mom! I am grateful for the weekly emails during the internship and that they were so thoughtful. You are truly wonderful for taking the time to care. In addition, thank you for now being just a phone call away!

*Keegan Kautzky:* I was privileged to meet you at my high school in the summer of 2009. I remember being impressed by what you said about the World Food Prize. I also remember thinking that it would be an incredible honor to receive an internship. I am grateful to have had this wonderful opportunity and look forward to working with you at Penn State!

***Again Mikka Nandri!***