MODEL FOR A SOCIAL BUSINESS IN GUATEMALA:

WORMS AND TRASH FOR THE FUTURE

LAS LOMBRICES Y LA BASURA PARA EL FUTURO

by

Stefanie T.O. Stoops

A capstone project submitted in partial fulfillment
of graduating from the Academic Honors Program
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Faculty Mentor: Professor Kristen Hovsepian, Assistant Professor of Marketing
Additional Readers: Dr. Jennifer Rathbun, Chair of Foreign Languages
Dr. Christopher Swanson, Honors Program Director
Abstract

Poor Ladina Guatemalans lack opportunities: nutritionally, educationally, economically, professionally, and socially. Poor children who never complete or even attend school forgo the education they need to attain higher wages and stable, formal sector jobs, condemning them and their children to a continuing cycle of deprivation. This thesis purposes to provide one solution by empowering women with the resources they need to break the cycle of poverty and lack of education. The project will train disadvantaged young mothers how to use worms to convert organic waste into organic fertilizer which they will sell. It will explore the opportunities and challenges of setting up and running a social business in this country. It will present an introduction to the cultural and historical setting of Guatemala, discussing the environment the project will operate within and demonstrating the need for such a business. The term social business will be defined, and various business topics such as employees, product, marketing, and management will be discussed. Education will be an important component of the project. This is not a full business plan; therefore, it will not include detailed financial statements, although some financial information will be given, with the understanding that more detailed financial information will be needed upon implementation.

Keywords: Guatemala, social business, women, poverty, vermicomposting, sustainability, and trash
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I would like to thank all the wonderful people who have helped me arrive at this point. First, I would like to thank my parents for all of their incredible support emotionally, spiritually, and financially over all the years. I would like to thank my mom for taking a nineteen year hiatus from her career to raise and educate me. I would like to thank my father and my brother for all the interesting discussions we have had along the way. I would also like to thank all of my professors here at Ashland. This has been a frustrating, exhausting, incredibly rich period of my life. I would like to thank Ashland’s reference librarians for pointing me towards good sources. Finally, I would like to thank my readers: Dr. Swanson, for making this project seem doable, Professor Hovsepian, for finding time in her extremely busy schedule to be my advisor, Dr. Rathbun, for supporting me as I make my own way in life and for writing more recommendation letters than I can remember.
Abbreviations

CIA  Central Intelligence Agency
GDP  Gross Domestic Product
GHRC Guatemala Human Rights Commission
HDI  Human Development Index
IMF  International Monetary Fund
UN   United Nations
UNDP United Nations Development Programme
WHO  World Health Organization
“Give a man a fish and you feed him for a day. Teach a man to fish, and you feed him for a lifetime.”

The above quote is a common version of some lines of prose written by Anne Isabella Thackeray Ritchie (1885) in her novel Mrs. Dymond, “[I]f you give a man a fish he is hungry again in an hour. If you teach him to catch a fish you do him a good turn.”

Before diving into this project, I would like to introduce myself in order to give the reader a better idea of why I have chosen this particular topic. Coming from a bilingual home, I have loved the study of language and culture since I was a young teenager. My personal studies have led me to read about obscure castes in India, Chinese Muslims, Russian Orthodox architecture, and the beginnings of writing, among other things. My experiences abroad only fueled my desire to continue learning.

Another important influence in my life has been community service through my church, through which I was introduced to the idea of poverty at a young age. International travel revealed poverty’s ugly face, and, after a church missions trip to Tijuana, Mexico, I became interested in doing missions work. Through my own study, as well as my classes, I have become more and more aware of the plight of women and how they are often held back, abused, and relegated to a minority status their entire lives. Reading the news made me aware of places in Africa where children are forced to become soldiers and women are often raped as a tactic of war. This made me angry, but, as I heard about what other people, people my age, were doing to make a difference, I began to realize that I too wanted to make a difference in the world.

Out of several prospective ideas, this project was not my first choice. Although I saw possibilities for the project, I was not tingling with anticipation and excitement all over, I must
admit. Before beginning to work on this project I had little knowledge of or interest in Guatemala, but I wanted to tie my thesis back to my majors in the department of foreign languages, and Guatemala is one of the poorest countries in Latin America. Neither did I know much about social business, but I had heard of microfinance. This seemed to me a rough start for the project that would culminate my undergraduate career, making me a little nervous. Nevertheless, as I have traveled down this path and seen the incredibly creative ideas people are using to battle poverty and social injustice, I have become more and more convinced that social business is a powerful tool. This honors thesis describes a model for a social business that will empower impoverished Guatemalan women to generate more income for their families by producing and selling organic fertilizer.

This process has also helped me realize that I would like to work within this field. At this point, I find it unlikely that I will actually implement this particular project, but writing it has given me a much better idea of what goes into being a social entrepreneur. This project has also helped me understand the deep inequalities that exist between men and women in Guatemala, which I did not expect. It has reaffirmed in me the desire to work with impoverished women. I have learned much more personally in doing this project than I would have if I had chosen a different topic.

This is perhaps not a typical thesis in that it does not aim to argue a point or provide primary research to answer a hypothesis. It does, however, answer several questions: What is a social business? How does one help solve poverty among young Ladina Guatemalan mothers? What cultural identities and gender roles are present within this environment, and how will they impact this project? What is the product? Social business has yet to become mainstream, and this article will educate its readers about this exciting tool. It strives to probe its readers to think what
they themselves can do to help alleviate poverty.

Methodology

The majority of this thesis uses secondary research, both from articles as well as projects being done in Guatemala. Appendix A describes the vermicomposting project the author undertook. The weights of the materials and worms involved were not recorded, since this is not a scientific project, but the information given will still serve to describe the process.

Article Roadmap

There are six main sections to this thesis: the introduction, chapters 1-4, and the conclusion. The first chapter will start with a general overview of the conditions in Guatemala. It will then briefly introduce some recent history which is relevant to the current conditions. After this, it will discuss women’s conditions and gender roles. The second chapter focuses on business culture and issues that expatriate businessmen need to be aware of. Chapter three moves into the definition of a social business. Chapter four introduces Las lombrices y la basura para el futuro by defining the project’s long- and short-term goals. Then it dives into the project idea as well as the different components such as education and financing. Throughout, this thesis will deal with possible problems or issues. It will conclude with some final remarks.
Chapter 1: Gender roles and rural _ladina_\(^1\) culture in postwar Guatemala

Introduction to Guatemala

**Basic geographical/demographic information.** Guatemala, located in Central America, had, in 2013, a population of roughly 14,373,472 people, the largest population of all the Central American countries: Belize, Costa Rica, El Salvador, Guatemala, Honduras\(^2\), Nicaragua, and Panama. Southeast of the Yucatan peninsula, Guatemala is beleaguered by poverty, crime, discrimination, and injustice. The Maya, although a significant portion of the population, suffer greatly from poverty. The _Ladinos_ are descendants of the Mayans and Europeans, and, although they retain power over the country, a significant portion of the _Ladino_ population is as poor as the marginalized indigenous population. Like many developing nations, Guatemala is suffering under the problem of rural underdevelopment due to lack of resources and varying types of isolation. In 2010, the urban population was at 49%, and, between the years of 2010 and 2015, it is expected to rise 3.4% per annum. 3.4% is no negligible amount, but half of the population is rural, a very significant percentage, especially since poverty is more widespread in rural areas. In 2011, 54% of the population lived in poverty (CIA, 2013b; CIA, 2013a; World Bank, 2003)

\(^1\) _Ladino_ refers to persons of European-indigenous ancestry who typically identify more with Western/European culture than indigenous culture. It should not be assumed that _Ladino_ and indigenous/Maya are mutually exclusive terms since _Ladinos_ are of a mixed ancestry themselves. _Ladina_ is the feminine version of the term. (Menjívar, 2011, p. 13; CIA, 2013b, “People and society: Ethnic groups”; González, 2001). Due to this project’s focus on women, _Ladina_ is typically used.

\(^2\) There is no date for the information from Honduras. All others are 2013.
Guatemala per capita GDP current U.S. $

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Table 1 World Bank (2013) & IMF (2013)

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</table>

Table 2 World Bank (2013) & IMF (2013)

3 2006-2012 are IMF staff estimates
4 Author’s averages
5 El Salvador, Honduras, Panama, and Haiti are IMF Staff estimates.
6 Author’s averages
Guatemala is in the middle of the range as far as income goes. (GDP per capita is technically not income, but it can serve as an estimate for an average wage.) It can often be difficult to ascertain the reliability of data from developing countries, so both statistics from the World Bank and the IMF are presented, along with the average of these two. This article will only reference the averages. Within the first decade of this century, average income has grown, but Guatemala still ranks in the middle range of Central American countries, and, in 2011, its GDP per capita was not even half of Costa Rica’s.

Guatemala has a very high Gini coefficient\(^8\), which means that while the average wage is $3,239.56, in actuality, most of this is concentrated in the hands of the rich. The Gini coefficient in Guatemala went from a 0.62 to a 0.57 between 2000 and 2011, which indicates an increase in equality\(^9\). Despite the fact this data is slightly higher than the data presented in Table 3, this drop is a good trend, showing improvement in economic equality, but still leaves much to be desired. Guatemala is 3\(^{rd}\) from the bottom of Central American countries in GDP per capita, and it is 2\(^{nd}\) from the bottom of Central American countries in its Gini coefficient. In both measures, only Honduras ranks below Guatemala. Nicaragua has a smaller GDP per capita but a significantly better Gini coefficient. Without doing more in-depth research, it is impossible to tell whether Guatemala or Nicaragua is poorer, but it is clear that poverty and inequality are heavy burdens in Guatemala. (UNDP, 2012a, p.33).

<table>
<thead>
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</thead>
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<tr>
<td><strong>2000-2010</strong></td>
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</tr>
<tr>
<td><strong>Norway</strong></td>
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<td><strong>Belarus</strong></td>
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<tr>
<td><strong>Kazakhstan</strong></td>
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<td><strong>Pakistan</strong></td>
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<td><strong>Costa Rica</strong></td>
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<td><strong>Guatemala</strong></td>
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<td><strong>Belize</strong></td>
</tr>
<tr>
<td><strong>Haiti</strong></td>
</tr>
<tr>
<td><strong>South Africa</strong></td>
</tr>
</tbody>
</table>

**Table 3 UN (2012)**

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\(^7\) No information for Belize could be found. Non-Central American countries are presented in order to give a sense of what constitutes high and low Gini coefficients.

\(^8\) The Gini coefficient is a number between 0 and 1 which is used to rank countries according to equality of wealth. The closer to 0, the more equally wealth is distributed (Daniels, Radebaugh, & Sullivan, 2011; UNDP, 2012a, p.33). See UN (2012) to compare Guatemala to other countries of the world.

\(^9\) Author’s translation and paraphrase
Due to this poverty, even though the mean of stunted youth for Central America was only 16%, the rate is roughly 50% in Guatemala, based on 2006 data. This indicates a huge problem. Even though Guatemala’s per capita GDP is by no means the lowest in the hemisphere, the country’s quality of life can be quite low due to these huge inequalities, which make the GDP per capita not truly representative of the actual situation. (Carletto, Covarrubias, & Maluccio, 2011; World Bank, 2009, p. 21; CIA 2013b).

Many are eking out their living as day laborers or farmers. Subsistence agriculture is a way of life for many Guatemalans, and it leaves many families with less nutrition than the daily requirement for good health. The Guatemalan government cannot consistently provide its citizens with basics such as eleven years of universal education, basic housing, standard sanitation, health care, or waste removal. The situation may seem hopeless, but the inability of the government and the incredible need provide a great opportunity for creative solutions. Albeit seemingly opposites, poverty and ingenuity can walk hand in hand. The poor are very creative, and they can do great things to better their lives if they are simply given a chance and given an education. This is evidenced by a number of projects that are already occurring in Guatemala and other places (World Bank, 2003, p. v; Menjívar, 2011; Yousif & Scott, 2007; CIA, 2013b; Agora Partnerships, 2012; Temple & Rose 2011; Z. Ingrasci, personal communication, September, 4 2013)

Civil war overview. Guatemala, like many other Latin American countries, has long been plagued by inequality. The current state of poverty and the rigid social structure have deep roots within the colonial period and following eras. The indigenous population was left poor, underempowered, and marginalized, and, since almost half of the population is indigenous, the country
Social business in Guatemala is extremely underdeveloped. The brutal 36 year civil war along with some economic shocks reversed any gains in development. As if this were not enough, the almost 40 year civil war resigned many Ladinos to a state of impoverishment as well. Of course, poverty was present before, but the war destroyed the infrastructure and de-accelerated progress. Between the 1950s and the 1980s, the country benefited from economic expansion, but it was not until the 1960s and 1970s that the economy became less agrarian. This expansion still led to problems because the benefit was not shared equally, and deep inequalities, particularly in land ownership, remained. Other Latin American countries made changes, but Guatemala did not, leaving the poor as poor as ever. All countries in Latin America suffered from colonialism, but Guatemala has continued to stagger along under the vestiges of this system. This sustained inequality is what has doomed the country to continuing poverty and malnutrition. (CIA, 2013b; Jonas, 2000)

In 1996, the 36 year civil war ended. During this period, Guatemala changed governments multiple times, and the war displaced up to 1 million people. The war was brutal with human rights abuses abounding. Many were maimed, killed, or disappeared. Torture was commonplace. Jonas (2000) wrote that this civil war was “the longest and bloodiest in the hemisphere, leaving some 200,000 civilians dead or ‘disappeared’” (p. 17). For every person killed or disappeared, there were mothers, fathers, brothers, sisters, wives, children, and friends left behind. The brunt of the war was borne by those in the eastern highlands, mostly indigenous, who suffered a series of massacres, but the war was long and did not affect only indigenous groups. A whole generation of people grew up in a country overcome with war. The long war left the country in poor condition socially and economically while not settling the conflict.

10 Disappeared, usually used as a verb, has morphed into an adjective and has been applied to numerous situations in Latin America to refer to those persons who had been kidnapped, tortured, and assassinated for being political dissidents.
Unfortunately, many poor do not have the education to break out of the cycle of poverty by themselves. In addition, a weak government, rampant corruption, and lack of infrastructure to provide basics such as medical care and education exacerbate poverty and violence by making young poor men feel as if their only choice is to join a gang. (CIA, 2013b, “Introduction”; Jonas, 2000; Brands, 2011; Menjívar, 2011)

**Continuing problem of poverty.** The entrenched inequalities have made it very difficult for the poor to provide a better future for their children. A lack of skills or education tunnels many into the informal sector where they have no assurance of work. The need to eat today often trumps the need to eat tomorrow, meaning that children get pulled out of school, or never go, in order to support the family. Many other factors, such as lack of schools, fees, family honor, etc., further disadvantage the poor. In addition, gender roles prevent women from experiencing their full potential and giving as much as they can to the family’s income. Unfortunately, the end of the war has not brought peace. Like any post-war country, justice has been a slow process. Crime remains extremely high and brutal. In many cases, gangs and other individuals act with a great deal of impunity, and most perpetrators of both political and apolitical crime have not been brought to justice. Criminal elements have significant power in parts of Guatemala City and other parts of the country, including six departments and up to 40% of the land. Security forces have not been able to stem the tide of violence. Casas-Zamora (2009) wrote, “The homicide rate doubled from 23 murders per 100,000 inhabitants in 1999 to 45 in 2006, reaching 108 in Guatemala City, nearly 3 times as high as Baghdad’s current rate. As a point of comparison, the murder rate in the United States is currently 5.9 per 100,000 people” (n.p.). (Brands, 2011; Jonas, 2000; GHRC, 2009; Menjívar, 2011; Zack Ingrasci, personal communication, September 4, 2013)
Target Group

Location and target group. Due to its long history of inequality and its long civil war, many Guatemalans suffer from poverty, but it would be impossible and ineffective to try and target the entire country. Through research, it has become clear that rural populations are poorer than urban ones. Also, women are more disadvantaged than men. The indigenous community, which was the focus of brutal massacres during the war (and have been long marginalized and mistreated), is more heavily burdened with poverty. However, it was relatively easy to find articles on this group and relatively difficult to find articles on the Ladina section of the population which suggests either that less work has been done among this latter group or that it has been not well-publicized in academic circles. This is not to say that the indigenous population does not need help. They do, and, although there are many projects working among these groups, there is still much need. However, this project focuses on the Ladina population since the author’s undergraduate studies align more with this culture than that of the Maya. (World Bank, 2003; Menjívar, 2011; Jonas, 2000)

Furthermore, it seems that inequalities between men and women are larger in the Ladina population than they are in indigenous populations. More specifically, this social business will target young mothers with young children. (Here, target or target group refers to the part of the population that the project wants to work with, not the customers who will buy the project’s product.) Both of these are vulnerable groups. Women often marry very young, some as young as 13, and will have multiple pregnancies. This means girls do not complete their education and are destined to a life of poverty trying to provide for their children. Motherhood is very important to Guatemalan women, and women are expected to raise their children well. Childcare is not a man’s task, and young girls are often left in charge of younger siblings. Although men
are the heads of household, women can potentially exert considerable influence over their children. Fuentes (1994) wrote that taking care of the house is strictly a woman’s job; this is something men do not do (As cited in Menjivar, 2011, p. 186). Given that women have so much responsibility for the household and children, empowering women to raise their earning potential will lead to better nutrition and sanitation and to fewer child deaths. Focusing on young women has another potential benefit. Young mothers may be more likely to accept new ideas since they are from a younger generation. They will still have time to send their children to school and to give them a better life. Therefore, this target group needs work and shows room for change. Women have the capacity to positively affect the future in a significant way—despite the fact that they are often at a disadvantage— if they are given a chance. (Menjivar, 2011; Menjivar, 2006)

Guatemala is far from an ethnically homogenous population, and, in many places indigenous peoples and Ladinas may live in the same towns, but the western highlands are dominated by the Mayans and the eastern portions of the country are more Ladino. This project will be located in a more easterly portion of the country since it wants to work with Ladina women primarily. It will be located in a rural or semi-rural area. Guatemala City is very dangerous, so the project will be located away from this area. (Menjivar, 2011)

**Women’s conditions.** Now that this thesis has covered some basic information and discussed the target group, poor young Ladina mothers, it will proceed to give the reader a more in-depth view of their lives and the factors and people which influence them. Cecilia Menjivar’s book *Enduring violence: Ladina women’s lives in Guatemala*, which discusses her research among both Ladina and indigenous women, has been particularly helpful. After this section on women, this thesis will cover some more general cultural information pertaining to doing
international business as well as a definition of a social business before actually discussing the project in detail.

One troubling social ill in Guatemala is its extremely high rate of homicides of women, femicides\textsuperscript{11}. The country had the third highest rate of femicides in the world in 2011. The GHRC (2009) reported, “The Office of the Special Prosecutor on Women receives more than 700 reports of sexual violence monthly, most of which languish in impunity. Of the 3,401 reports received between January and May, only 68 suspected perpetrators are in protective custody” (p. 8). This means that of the 3,401 cases reported during these months, only 1.9994% have had someone arrested. In other words, in 98% of cases, the criminal gets away totally free. The Human Rights Ombudsman reported that in the first decade of the 2000s, 5,500 women were murdered. While only 213 were killed in 2000, 722 were killed in 2008 and 633 in 2010 (as cited in GHRC, 2011, p.1). No one knows the real number of women murdered. This is further complicated by the fact that the police are sometimes involved in this violence. During the civil war, the government was the main perpetrator of human rights abuses. It is impossible, therefore, to ascertain the accuracy of any numbers, but the ones given above demonstrate the deep social problems that exist within the country and the fear that women live in. (Geneva Declaration on Armed Violence and Development, 2011; GHRC/USA, n.d.; Jonas, 2000)

Although this data is several years old and is likely understated, it demonstrates why there is an atmosphere of fear and danger that exists within the country, particularly for women. Official numbers say that, in 2010, 695 women were murdered. Crimes are committed with the knowledge that few suspects are ever prosecuted and even fewer are found guilty, even when

\textsuperscript{11} Femicide and the related term Feminicide refer, in this setting, to more than just the murder of a woman. In this case, the woman is often killed in an extremely violent manner because she is a woman. These terms do not include the murder of female infants. (GHRC, 2011)
considering total homicides (See Brands, 2011 for impunity statistics). Many of the bodies of the women indicate violent painful deaths. The atmosphere of crime and fear only exacerbates the vicious cycle of poverty. In 2012, the country had a HDI\(^{12}\) of 0.581 and the average number of years of school was 4.1, not the 10.7 years children were supposed to get. Out of all seven Central American countries, Guatemala has the lowest HDI. This indicates a high level of inequality in Guatemala and demonstrates its relative poverty among its neighbors. Poverty, malnutrition, and violence all work together to create a poorer standard of living for many Guatemalans. (Amnesty International, 2011, p. 2; UNDP, 2012b; GHRC, 2009; GHRC/USA, n.d.)

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</table>

Table 4 UN (2012)

Women, in particular, suffer from a lack of opportunity. In 2009, the average age of women for first birth was 20.3. This means that girls who might be freshmen or sophomores in college are getting married and starting families. Countries and their Cultures (2001) mentioned, “Among the poorer classes, both Mayan and Ladino, unions are free and ties are brittle; many children do not know, nor are they recognized by their fathers” (González, p. 936). In a culture where maternity is the defining role for many women, some women have the added burden of caring for a child in the total absence of the father. The average age of 20 years at first birth is simply an average. First births may occur at much younger ages. In fact, women may marry or cohabitate during the teenage years which impedes them from pursuing their education. In 2011, women gave birth, on average, to 3.9 children. This dropped to 3.08 children in 2013 and 2.99 in 2014. In 2009, medical professionals helped at only 51.3% of births. In 2010, there were roughly

\(^{12}\) Lifespan, education, and income indicators are melded together to form the Human Development Index which attempts to measure the general quality of life in a nation instead of just focusing on a financial view. This is an indicator created by the UN. (Daniels et al., 2011, p. 142-3)
120 mother deaths for every 100,000 live births, and, in 2009, although 93% of women received professional care at least once during pregnancy, only 25.6% received professional care within the first two days after the birth. The deaths of women, related to having children, and of children are the highest in the Americas after Haiti, Bolivia, and El Salvador. They are still relatively high due to a lack of general health, prenatal care, and postnatal care, so, if a woman or her partner wanted to have at least three children, she might become pregnant more than three times. Poor health makes it difficult to work or attend school, and it leads to medical bills which the poor do not have money to pay, leading them to borrow from exploitive moneylenders. The interruption of education continues the cycle of girls with being pulled out of school to work and to marry. In 2006, 21% of children between the ages of 5 and 17 worked. Since it is expected that most girls will end up as mothers and housewives, less importance is often granted to their education relative to the education of their brothers. All of this restricts women into a life of economic and health poverty, particularly when it comes to childbearing. (CIA, 2013b, “People and Society: Mother’s mean age at first birth”; CIA, 2013b, “People and Society: Total fertility rate”; WHO, 2013a; WHO, 2013b; Lantz, 2014; Yunus, 2007a; CIA, 2013b, “People and Society: Child labor”; Menjívar, 2011; Zach Ingrasci, personal communication, September, 4 2013)

**Gender Roles**

In every part of the world, gender roles tell an individual how he or she is expected to behave. In some countries, such roles and rules are fairly wide, but in others they are fairly narrow. Whichever is the case, gender roles play a defining role in their societies, and, since this

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13 “This entry gives a figure for the average number of children that would be born per woman if all women lived to the end of their childbearing years and bore children according to a given fertility rate at each age. The total fertility rate (TFR) is a more direct measure of the level of fertility than the crude birth rate, since it refers to births per woman.” (CIA, 2014, n.p.)
project wants to work with women, understanding the female gender role in Guatemala is critical. Yet, men and women constantly interact, so it is also necessary to understand the male gender role; it is impossible to understand the woman’s role otherwise.

*Macho*\textsuperscript{14} culture. *Machismo* is an important part of Guatemalan culture. This type of culture is male-dominated, and, although women often play a significant and crucial role, the power to make many important decisions rests ultimately in the hands of the man with which the woman is associated. In Guatemala, this man might be her father, her stepfather, her mother’s partner, her husband, or her partner. Menjívar (2011) paraphrased Irina Carlota Silber (2004) saying, “when women are economically vulnerable, they also become vulnerable to men’s sexual violence and exploitation and are seen as culpable for their own conditions, which in turn limits their ability to seek redress for their predicament” (p. 5). Guatemalan women are not entirely helpless and enslaved, and it would be unfair to portray Guatemalan men as misogynist tyrants, but women’s options for advancement are often limited by the desires of the men in their lives. Men are seen as superior, and thus have more freedom, education, and opportunities. Men may frown down upon or even prohibit their wives from working outside of the home. Negative gossip about a woman may lead to her family and husband deciding that she cannot leave the house or can only leave for short periods of time for very specific reasons. The degree of restriction varies from family to family, of course. This can extremely limit a woman’s opportunities for advancement. If she is not allowed to go to school or work, her family may not have enough resources to buy sufficient food or pay for medical bills and medicine, leading to poorer health. Even worse, such an attitude is likely to affect a woman’s daughters, continuing

\textsuperscript{14} *Machismo* is a term used to describe a stereotyped gender role of Latin American men. A *macho* man is tough, though not necessarily abusive, and in control. Virility is a part of being manly, and *machismo* is used to excuse marital infidelity on the part of the man. For a fuller understanding of *machismo* in Guatemala see Cecilia Menjívar (2011) *Enduring violence: Ladina women’s lives in Guatemala*. 
the complex cycle of illiteracy, lack of resources, poor health, and poverty. It would be unfair to portray women as literal prisoners of their own homes, but they can often be very limited in their movements. Much depends on the views and desires of the man and the woman’s reputation.

(Menjívar, 2011)

Marianismo\(^\text{15}\) and the power of gossip. In any culture, there are specific gender roles, but in Guatemala, these roles are rigid and narrow. Menjívar (2011) noted the power and pain that gossip can bring into a woman’s life and its effects,

> It is a weapon of social control and a source of humiliation, pain, and affliction in the women’s lives. The women I met worried about *el que dirán* (what others will say\(^\text{16}\)),...gossip that could hurt and perhaps ruin their reputations, and about the consequences it might have for their lives, including abandonment or diminished support and decreased opportunities to find (and keep) a partner. Regardless of their social standing, the women took extreme care to conduct themselves so as not to call negative attention to themselves and not to lead anyone to suspect them of ‘misbehaving’ either in the streets or at home (p. 77-8).

This social control, albeit deeply ingrained, forms a part of the *macho* culture, or, to put it another way, the culture of *marianismo*. Both of these words go hand in hand. The former relates to male dominance and power while the latter relates to how women are expected to be good daughters, mother, and wives. They are supposed to be pious and behave properly. While many women do work outside of the home, some families may consider it inappropriate. It is important

\(^{15}\) *Marianismo* is the term used to describe the female stereotyped gender role. Marital fidelity and sexual purity are important components, but the ideas of motherhood and taking care of children also play a role. For a fuller understanding of *marianismo* in Guatemala see Cecilia Menjívar (2011) *Enduring violence: Ladina women’s lives in Guatemala*

\(^{16}\) The translation is Cecilia Menjívar’s.
for any organization wishing to do business in Guatemala to take these cultural normalities into consideration. Although it is ultimately the woman who will have to make the decision of whether to work, in the case that her male partner should be against it, it is much better if the man supports his woman in her endeavors. Menjivar (2011) reported the following conversation she had with a *Ladina* woman in eastern Guatemala,

He tells me that I should quit, that I really don’t need the money, that he makes in one minute what I make in a whole month, so I should quit. He says that I’m crazy getting up at 5:00 A.M. to go to work. That I don’t take care of the girls because I’m so involved with my job. Ay, a thousand things he says! All insults. And my work is something he throws at me (p. 171).

Although this woman appears to be from a slightly higher social class and does not have to work, her story illustrates some very important cultural principles. Women who work may be seen as neglecting their children, and their husbands may not always be supportive of their work, even though it may be an economic necessity. This makes it difficult for women to work outside of the home. Working outside of the home means a woman must potentially endure gossip about her reputation and disfavor from her partner. She may be seen as less than virtuous and neglective in her maternal duties. This may lead her partner to restrict her work opportunities. If she stands up for her rights, she may be allowed to work, but this comes at the cost of ridicule, as in the case above. Of course, the situation varies between every couple. Women do, in fact, work very hard in Guatemala. Raising children and caring for the house is no small task, and many women do work outside of the domestic sphere. Menjivar (2011) wrote, “Among the poor, however, women were not only expected to work for pay, but it was also a part of their lives” (p. 181.). Yet, they must still care for their children. This puts poor women in a difficult position. Work is a
necessity; yet, reputation and motherhood restrict their options. (Menjívar, 2011)

**Danger and work.** The dominant role for women in Guatemala is that of mother and housewife. Having a job may, in some circumstances, be seen as breaking into the man’s world. The man may feel that, if his wife needs to work, he is not fulfilling his job to earn income for the family. These are deeply ingrained cultural values, which are hard to change. Furthermore, a woman’s name is very important, particularly in rural areas. Being out late on the street can suggest that she is licentious or even engaged in prostitution. Furthermore, the high rate of femicides and crimes in general can make travel, particularly for a woman traveling alone, seem dangerous. These restrictions are partially a cultural value that has been ingrained into Guatemalans thanks to the long civil war and ensuing instability, although there can be significant danger involved. That is to say, although the real danger plays a role in keeping women out of the workforce, Guatemalans have come to feel that a woman traveling alone is dangerous, whether or not the actual level of danger warrants the restriction of her travel. It becomes somewhat difficult, therefore, to gauge the actual level of danger given that one must separate it from the supposed danger. However, certain parts of Guatemala are extremely dangerous, and caution should always be exercised. Menjívar (2011) found that the danger involved in traveling to work and the need or desire to watch children prevented women from taking jobs at a factory that had tried to locate in the area, according to local opinions. The author noted that the war made working outside of the home seem more dangerous for women than it already was (p. 169-70). Once again, reputation and gender roles play a huge role in determining women’s freedom. This level of concern for women’s security when they travel may seem irrational, but the rise in violent crimes against women poses a real threat towards them. It is critical that the work with the social business should not impede mothering duties and that the
business should be located in an accessible and respectable location. It is impossible to create perfect conditions, but the fewer barriers to joining the business, the more likely it will be accepted. (Menjívar, 2011; Menjívar, 2006)

**Reputation and work.** Many families cannot afford to send their daughters to school, but finances are not the only barrier to a girl’s education. Menjívar (2011), upon speaking to a Guatemalan nurse, learned of the extremely traditional view some rural Guatemalans hold. They believe that even leaving town in order to go to school, since not all rural schools offer twelve years of education, will lead a girl to become promiscuous or, at least, to lose her virginity (p. 176). The idea that leaving town means a woman will lose her virginity is shocking, but it is based in a history where women have lacked rights and where violence has been pervasive. In essence, a woman’s reputation does not belong to her, but to others. These two have interwoven to create such superstitions which have become so deeply entrenched that the community is willing to sustain loss of opportunities in order to ensure the reputation of its daughters. A woman’s mobility and her education are restricted by community and cultural perceptions of what is acceptable. Of course, the poor do not often have the money for the bus fare in the first place. Menjívar (2011) quoted a native woman of San Alejo discussing her work and her reputation,

People know what I have sacrificed, that I live a very busy life earning a decent living for my children. I live enslaved, but I am respected. I know there are bad tongues out there because I have to walk alone at night, my work requires me to go out and be in the streets, so naturally there is gossip, right? But I can tell you, I am not ashamed of anything (p. 185).
Where a woman goes can have a huge influence on how people see her. This ties back to the issue of reputation and gossip. Traditional Guatemalan *Ladino* culture is patriarchal in nature, and a woman’s virginity and reputation is considered to be a valuable asset to the family. While, in reality, this leads to over-protectionism, which keeps women from working and actually harms the family, the idea that women must be protected, especially in light of the civil war and postwar rise in femicides, remains entrenched. Decent work is somewhat of an oxymoron. To work outside of the home is to leave the sphere of protection and to potentially ruin one’s reputation. This is why the location of the social business is extremely important. Its location should be such that women are not taking slights to their reputations. At the same time, it gives them the opportunity to work in a respected place and prove to their communities that reputation and work outside of the home are not contradictory. (Menjívar, 2011)

**Marriage situations.** As mentioned above under the section on women’s conditions, many young poor people have relatively free “marital” relationships. Some couples will eventually marry, but others will break up, so it is not unusual for a woman to have children from different fathers. Women who have no spouse or partner, or whose man is not responsible, often end up being both mother and father. They have to work to make ends meet, but they are also expected to raise the children and take care of all of the household chores. A man caring for his children on a day-to-day basis is practically inconceivable within rural Guatemalan *Ladina* culture because it is considered unmanly. (The man’s role is to provide financial support.) This leaves a huge burden on women. It takes up their time and saps their energy, and this is why it is so critical to provide women with the tools and knowledge they need to increase their earning potential. In fact, working may not necessarily empower women, although it can, especially if the woman is still required to take care of all of the housework. Given these strict gender roles, if
a woman’s partner is not particularly supportive of her working, then, working may lead to more problems. Nevertheless, some families simply cannot get by or ever hope to advance without the woman’s income. The more money they make, the less of a chance there is they will pull their children out of school. More money, in theory, means better nutrition and access to health care and less child deaths, which are still a significant problem in the country. Despite the fact that a paid job may not change the division of household labor, a higher-earning potential empowers women to be more than victims. It helps them to network with others and start to change the cycle of poverty. Poor women have to work to survive. This work should provide them with enough income to provide for their families. In the long-term, as more women in Guatemala start to work outside of the home, it is possible that women will begin to have greater equality vis-à-vis their male counterparts. (González, 2001; Menjívar, 2011; Menjívar, 2006; WHO, 2013a)

Redefinition of educated

Why choose to work with such a group with so many ingrained cultural ideas that could be possible barriers to success? As already mentioned, women have a great capacity to impact their children’s lives, if they are given a chance. They have the possibility to instill in them new ways of seeing the world. Yet, most of the women are uneducated by developed world standards. It would seem extraordinary, then, that these women are to run a business. Some women in the rural areas of Guatemala cannot even read and write and, in 2010-2011, the combined literacy rate hovered at 75%. Formal education is incredibly important, as most formal sector jobs require at least a basic level, but it is not necessary to have a high school diploma in order to successfully provide for one’s family and ensure a better future for one’s children. Ladina women have valuable life experiences which help them to survive and thrive in their environment. This culture specific education cannot be taught in a classroom, but it has great value nonetheless.
Ladina women should not be considered uneducated simply because they have not attended school.\textsuperscript{17} This project is very hands-on. Taking care of worms, marketing vermicompost, or building a building out of trash does not require knowledge of advanced mathematics or science. (Building safety would dictate that someone with construction knowledge be included in the process.) Lack of education will not be a barrier for a woman wishing to join the project. To make up for any lack of formal education, the project will provide basic training courses as needed. Issues such as basic bookkeeping will help the women develop skills they can use later on, or in different areas, to increase their employability. Therefore, hiring uneducated, illiterate women should not be seen as a barrier to success. Rather, it is only by employing the “unemployable” that any real progress in the fight against poverty will be made, because it is precisely this lack of formal education that keeps the poor, poor. In the end, lack of formal education does not indicate lack of intelligence or desire to learn. Many simply never had the chance to attend school. Likewise, the cultural background provided above will make it difficult for some women to participate, and the business may, very likely, not be well-received by everyone. Unfortunately, it is impossible to please everyone. Though cultural sensitivity has been and will be an important part of this project, this business’s very idea aims to encourage change of certain cultural ideas, such as the view that working outside of the home is not a woman’s place, because there are certain views held in Guatemala which are holding women in poverty. (CIA, 2013b; UNDP, 2011)

This section introduced the reader to Guatemala, covering information about the civil war and the violent aftermath which have led to the present political and social state in Guatemala. It discussed how this violence has affected people’s views and women, in particular. This chapter

\textsuperscript{17} See Yunus (2007a) p. 140 for a discussion on lack of education and the need for formal education.
considered how gender roles have confined poor women to continuing poverty. This section also mentioned how gossip and reputation play an important part in Guatemalan culture and the barriers these become for women wishing to work outside of the home. The next chapter will highlight certain aspects of Guatemalan culture which might cause issues for a newcomer wishing to start a business.
Chapter 2: Cross-cultural business

Business culture

This section will continue the discussion on Guatemalan culture from a more general viewpoint. The topics mentioned are broad but practical. They are included in order to help avoid any cultural embarrassment on the part of the expatriate. This model could be implemented by anyone, both from Guatemala or any other country. There is nothing that inherently prevents someone of any culture from implementing it, although a native Guatemalan would face the least amount of culture shock and would better understand how to work within the culture. However, given the author’s background and connections, this project has chosen to target an American as the possible implementer. The following section will highlight some cultural aspects of Guatemala that differ from American culture. They are given so that the person implementing this project will be aware of these differences. Since this is a Guatemalan business, it would be ineffective and insensitive to try and run it using foreign cultural values, whether American or otherwise. Despite the fact that these categories have been chosen with an American audience in mind, they are useful tools for cross-cultural understanding no matter what cultures are involved, and the insights into Guatemalan culture will be helpful for anyone from any culture. Finally, this business plan is meant to be implemented by a woman. The plan does not preclude the participation of men, but, given the cultural characteristics discussed above, it is more culturally appropriate that a woman work with the women, especially since talking to strange men in the street can lead to speculation about a woman’s reputation. (Menjívar, 2011)

Guiding principle. Empowering women is the driving force behind Las lombrices y la basura para el future, and cultural sensitivity plays a key role in the empowerment. As has been
discussed above, women and families are bound in poverty, in part, because of societal standards. This business will work within these standards while helping women realize they do, in fact, have rights. The program cannot, in and of itself, effect a change in the culture. It is the women who will have to start the dialogues that will reinterpret the cultural standards and traditions which are holding them back. These standards must be reinterpreted, but they should not be thrown away. For example, this project wants to encourage poor women to work, but reputation may get in the way. These women, as they participate, will be showing their friends and families that a woman and mother can work outside of the home without tarnishing her reputation or letting go of her cultural heritage. Sustainable cultural change does not happen overnight. In order to ensure this, the business will be locally managed as much as possible. Second, this local management philosophy will help the women own the business and make it sustainable and reproducible. If the community sees its women actively participating in and running the project, then it will be much more likely to accept the idea that working outside of the home is a positive experience. These two principles are reflected in the following discussion of cultural differences and the basics of a social business. They are intended as guidelines to make the cross-cultural interactions as smooth as possible and ensure the long-term viability of the project. Those the business helps must actively be a part of the solution instead of having the solution thrown at them, and the solution must be culturally appropriate for them.

**Traditionalism, reputation and clothing**

Since a woman’s reputation and safety are highly valued, women wishing to work in the country should follow the lead of Guatemalan women concerning what to wear. In addition, they should be aware of any stereotypes, negative or positive, Guatemalans may have about
foreigners\textsuperscript{18}. A cultural clash may occur if the expatriate’s culture of origin has a different clothing standard than does Guatemala, particularly if the expatriate is used to wearing clothing that reveals more of her body than is considered acceptable in Guatemala. Wearing clothing which reveals too much skin has the negative connotation of sexual looseness, even for Guatemalan women, which could put a woman in a dangerous situation. Although clothing is more of an issue for women, men, likewise, should be careful to respect the cultural values in order to maintain a positive personal and professional image. \textit{Ladina} women will not want to be a part of a project that will taint their reputations. The success of the business, in a very important way, hangs on the reputation of any expatriates involved in it, particularly during early stages. Unprofessional, culturally insensitive, or even inappropriate clothing could tarnish the reputation of the business and the local women associated with it. (Bellino, 2010, p. 6)

\textbf{Language Skills}

Guatemala has a diversity of languages, and Spanish is one of the mother tongues of the \textit{Ladina} population. Expatriates should be relatively fluent in Spanish in order to effectively communicate with the locals. This will be critical as the expatriate introduces the concept and recruits participants, but it will continue to be just as critical in the running of the business. Engaging the Guatemalan culture in such a manner as called for here requires much interaction both on the personal and professional levels. The manager will have some important roles in making connections and sustaining the operations of the business. Poor rural women are very unlikely to have any appreciable knowledge of English. Therefore, it is natural and appropriate that the business be conducted in Spanish. A more advanced level of Spanish will allow easier communication about the business in both general and qualitative aspects. It will also lend

\textsuperscript{18} See Menjívar (2011) pp.23-24 for more on conceptions of outsiders.
credibility to the project and help to authenticate it in the community’s mind. Although this model does not target indigenous women, they will certainly not be barred from joining should they wish to. It may become necessary for the expatriate manager or someone within the organization to learn one or several of the indigenous languages, but this issue should be addressed at that point and will not be given further attention here since the indigenous groups are not the main focus of the project.

Views of time and personal space

Two more cultural aspects to keep in mind are time and space. Most, if not all, Latin American cultures have a conception of time as more fluid. Being on time, although perhaps more important in professional and educational settings, is not of utmost importance. This reflects a group of cultures in which one is more focused on relationships than on time. Anyone wishing to do business or live in Guatemala should be aware of this difference and should be prepared to accept lateness, under some circumstances, as acceptable and expected.

Personal space and other non-verbal communication, while not as critical as other cultural aspects, are still important to note as ignorance may lead to awkward situations. In Latin America, a smaller personal space and touching, even in greeting or talking to another person, are more common. People also tend to sit closer to each other. Physical contact is normal, even though this closeness may, at first, feel uncomfortable to someone from a culture with a greater personal space. Both use of time and space demonstrate a tendency to be more people-oriented. (Halasz, 1998,)
Hofstede’s principles

Collectivism\(^{19}\). In a collectivistic culture, the group’s or family’s needs take precedence over the individual’s needs. Often, important decisions are made by the head of the family or the elders. Family is incredibly important in Guatemala. Guatemala has a rating of 6 on the Individualism Index, which reflects a more collectivistic culture. An individual may not feel she has the authority to change her situation if her family is against it. Women are expected to listen to their male partners and to stay at home as good mothers and housewives, which reflects the collectivistic culture. The concern with a woman’s reputation likewise, reflects this collectivism. (Hofstede, Hofstede, & Minkov, 2010; Menjivar, 2011)

This project does not condone rebellion against all traditional cultural values. Rather, it encourages women to break with some of these values, only when this break will help them to stand up for their human rights of access to adequate medical care, nutrition, and education, and only in a manner that will allow them to maintain their personal integrity. (The women themselves must be able to justify their decisions before their families and friends, particularly in this atmosphere where gossip can have a significant impact on women.) Collectivism should not be seen as something necessarily negative or misogynist, but it can have some negative effects. On the other hand, this collectivism will help the women involved in the project feel like a family, solidifying the chances of success by framing the business as a project to benefit the community. This community-orientedness will also help to create an agent for social change that will be perceived as part of the culture. Although the women will be working outside of the

\(^{19}\) Individualism vs. Collectivism (Individualism Index), Power Distance, Masculinity vs. Femininity (Masculinity Index), and Uncertainty Avoidance (Uncertainty Avoidance Index), which are used here to help explore the Guatemalan culture, are all theories of Hofstede et al. (2010). The data presented here is taken from Hofstede et al. (2010) whose work is based off an IBM survey with data collected in the late part of the 1960s, the early part of the 1970s, and later.
home, they can tell others that they are caring for their families by earning money to send their children to school, buy food, pay for medical bills, etc. It is, therefore, a culturally sensitive model which increases the chance of success.

For this project to succeed, some cultural traditions, such as mothers being restricted from working outside of the home, must change, but this change should not be expected to occur all at once. Furthermore, the change must come from within the culture; an expatriate can inspire, but it is the locals who have the most influence. A slow and steady process will ensure the most sustainable change, which means that, in some areas, such as clothing, expatriates must be willing to adjust to a Guatemalan way of doing things in order to create a culturally-sensitive image. The change should be perceived as an internal evolution of the culture, not an external imposition of foreign values.

**Masculinity-femininity**. Guatemala has a fairly low masculinity index score at 37 indicating a feminine culture. This index refers to the idea of saving face. While masculine cultures may feel comfortable with being more up-front, blunt, and direct in their relationships, more feminine cultures prefer a more personal and gentle approach. When these two types of cultures clash, masculine cultures may perceive feminine cultures as overly polite while feminine cultures may think of masculine cultures as rude. Hofstede et al. (2010) wrote, “A society is called masculine when emotional gender roles are clearly distinct: men are supposed to be assertive, tough, and focused on material success, whereas women are supposed to be more modest, tender, and concerned with the quality of life. A society is called feminine when emotional gender roles overlap: both men and women are supposed to be modest, tender, and concerned with the quality of life,” (p. 140). This index does not refer to *machismo*, although the

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20 This index does not refer to *machismo* and *marianismo*. 
two certainly affect one another. This is of concern because someone from a more up front, blunt end of the cultural spectrum could potentially cause problems between the women. A culture with a low masculine/high feminine score values fitting in with the group rather than being different or independent. It also values avoiding arguments. Although these women will become leaders by example, they will not stand out so much because they will be doing this as a part of a group. However, if a woman’s family is against her participation in the program, she may decide not to join because doing otherwise would make her stand out and seem argumentative. (Hofstede et al., 2010, p.143; Hofstede, n.d.a, “Masculinity versus Femininity (MAS); Hofstede, n.d.b,“Masculinity/ Femininity”)

**Power distance.** The power distance is very high in Guatemala at a 95. This means that subordinates are not likely to be comfortable in helping to make decisions. In a culture with a high power distance, more respect is given to those in management positions or to social and community authorities. This will be one of the problems this organization will run up against, since it aims to be locally run by the women. As this power distance is ingrained, it will not be easy to change, but the new model must be slowly introduced and implemented. Furthermore, the basic business model, including the management model will be explained from the outset, so participants know what to expect and agree to it. There will likely be an expatriate manager, but this person will try to play down this managerial role, except where necessary. She will present herself as another participant who simply has more responsibilities rather than a full-blown manager with power over the employees. Workers may not accept making decisions in conjunction with their managers, but the entire employee group making the decision can sometimes be effective. If the women leave all the decision-making to a manager and only do what they are told, they will never become empowered to change their situations and the project
Uncertainty avoidance. Another issue is uncertainty avoidance. Guatemala also has a very high uncertainty avoidance at 101. Uncertainty avoidance refers to how well people deal with unstructured situations. Higher uncertainty avoidance indicates a culture which likes to be specific about what is expected. It does not refer to risk aversion which deals with a particular event. People from a country with a high uncertainty avoidance may not necessarily be risk averse. This project, then, will need to be fairly specific about what is expected from the women and how the business is to be run in general. Combined with the issues related to power distance discussed above, the expatriate manager will need to balance the cultural needs of specificity in instruction and tendency towards less decision-making coordination between subordinates and managers with the goals of empowerment, local sustainability, and local management. (Hofstede et al., 2010; Daniels et al., 2011, p.63-64)

Locus of Control

Locus of control is an important cultural idea which defines how much power people think they have over their own lives. Some Guatemalans see pain as a part of life. This suggests an exterior locus of control. In other words, people believe they do not have the power to change their lives’ circumstances in order to avoid pain. This mentality does not lend itself well to self-empowerment because the individual supposes she can do nothing to change her situation, so she may not try. This may be an over-pessimistic view of Guatemalan culture, but it is important to take it into consideration. Overcoming such a point of view will not be an instant process, but, as the project grows and becomes more well-known through word-of-mouth, other individuals will...
begin to see that, just because they need some assistance, does not mean they are incapable of changing their circumstances. In addition, the poor generally have a strong work ethic, out of necessity, which, if given an opportunity, can result in empowerment and change. Any new enterprise, particularly in a cross-cultural context, is sure to run into problems, but attention to these details will help lessen the potential to make huge, damaging mistakes. (Putman, Lea, and Eriksson, 2011, p. 238)
Chapter 3: Social business

Now that the reader has a basic understanding of the conditions in Guatemala and the cultural background, it will be helpful to introduce the idea of a social business before moving on to the actual project. In recent years, Corporate Social Responsibility\textsuperscript{21} has grown in popularity, as has the idea of the triple bottom line\textsuperscript{22}, which Corporate Social Responsibility is related to. In the past, companies only used to worry about their bottom line, meaning profit, but more recently the business world has seen a shift towards companies giving back to their communities as a way of creating both social and environmental sustainability. Making money and helping people used to be considered to be rather incompatible goals because social work was associated with volunteerism and donations, which were time and money expenses for the company. In the same vein, although people have known for years about the benefit of and need to live and work in a more environmentally sustainable manner, environmental initiatives, such as solar panels, tend to be expensive. However, both of these ideas are gaining support, and customers want to do business with companies that do good. Social and environmental sustainability initiatives have come to be seen as investments, not only for the benefit of the community, but also for the company. The fact of the matter is that companies who can boast about their solar panels, waste reduction, and community service, are building positive brand images. These days, consumers expect companies to not only make a profit, but to also invest in the community and be green at the same time. Corporate Social Responsibility and the Triple Bottom Line are the products of this trend.

Another important concept which has surfaced recently is Bottom of the Pyramid

\textsuperscript{21} A company which follows Corporate Social Responsibility strives to ensure the best for all parties involved in and affected by the business, including the community at large (Daniels et al., 2011, p. 795)

\textsuperscript{22} The triple bottom line includes not only profit, but also a commitment to the community and to environmental sustainability (Solomon, Marshall, & Stuart, 2012, p. 16).
Marketing. Most people in the United States, even the ones below the national poverty line, live well above much of the world’s population. A significant portion of the world’s population lives on next to nothing, and they have traditionally been passed over by marketing schemes, considered too poor to buy anything worth marketing. More recently, some corporations are tapping into the huge profits that this sector presents by selling extremely cheap products, which the poor are able to afford. (This does not mean the products are necessarily of lesser quality. For example, instead of selling a large shampoo bottle, a company might sell a one-use bottle for much less.) It had also been assumed that the poor are not brand conscious because they do not have the money to pay a premium for a branded product. While this may be partially true, it is possible to sell inexpensive products to the large poor population, which gives the company access to extra profits and the customer access to products he or she might not have been able to afford previously. Therefore, in recent years, there has been a shift towards targeting social problems, particularly poverty, from a business standpoint. It is from this environment that the idea of a social business sprang.

The term social business has several different meanings, but this project will utilize the description of Yunus (2007b) who wrote, "A social business is not a charity. It is a business in every sense. It has to recover its full costs while achieving its social objective.... It pursues this goal by charging a price or fee for the products or services it creates," (p. 22). This definition seems counter-intuitive. Typically, the poor have been excluded from the business and consumer worlds because they are too uneducated to join the former and too poor to join the latter. This is not true. The poor are creative businessmen, and they do buy products and services, but only

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23 Bottom of the Pyramid Marketing realizes that, if companies can produce their products cheaply enough, they can sell it to a very large segment of the population which has been, until recently, ignored in marketing campaigns, the poor (Daniels et al., 2011, p. 793).
marginally. Having a business which sells to the poor, yet recovers its costs, seems impossible because traditional business sense says one has to charge as much as customers are willing to pay to cover costs and make a profit. The poor can afford to pay only very little. For a business to be profitable in this market, it has to be able to produce and sell the product very inexpensively so it will still cover its costs. This requires a bit of creativity on the part of the company. It does not matter whether a not-for-profit organization, a single person, or several people own a social business. The important thing is that the business is profitable, and the profit made after paying back the original investment becomes retained earnings which help the company expand and keep prices affordable. No dividends are paid. Normal companies need to make enough on the product to cover all costs, have money to reinvest, and, sometimes, to pay investors. By throwing all profit back into the company, the company has the resources to continue growing, but the profit does not need to be as large, because no dividends are ever paid. There are two types of social businesses. The first is owned by the wealthy and sells cheap goods or services to the benefit of the poor. The second is owned by the poor. Here is a simple fact. The poor do business. They have too. If they cannot find regular jobs, they get creative. They have too. The problem that many poor Guatemalan women have is a lack of resources. (Yunus, 2007b)

This article has chosen to use Yunus’ definition because it does not want to simply create a business which engages the community as an afterthought. Reinvesting the retained earnings instead of paying dividends allows for the growth of the business without the need for outside capital every time an improvement is made, which makes it more sustainable. This model is also attractive because the poor can own or play a significant role in the business. Traditional business sense says that an entrepreneur must have a good education to succeed, or at least a basic grade school education. (While this may hold some truth in the United States today due to
the complexity of the formal economic sector’s business and tax laws, it certainly has not always been the case. Many big name companies started as one-store mom and pop shops.) It is true that to succeed in the business world one needs some education, but a lack of education does not preclude the poor from running their own businesses. In fact, many poor do run businesses because it is their only means of survival, but these businesses are often part of the informal economy and do not generate much income. This is where education and access to capital can help. The poor have largely been seen as helpless, and, while charity has done much to alleviate poverty, it is not always very sustainable. The social business model works off of the idea that the poor are capable of solving the problem of poverty, but provides them with the tools they cannot achieve themselves. It couples resources from educated well-off individuals with the work ethic and creativity of the poor. In the social business, social and/or environmental change becomes the business’s priority instead of being an afterthought.

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24 For a more complete discussion of social business, micro-enterprises, and the role of the poor in solving poverty see Yunus (2007a) and Yunus (2007b).
Chapter 4: *Las lombrices y la basura para el futuro* (Worms and trash for the future)

**Introduction**

A growing population and 36 years of internal conflict arrested the development and caused the collapse of the country’s infrastructure. Guatemala, like many developing countries, has a huge trash problem because the government does not have the capacity to collect and properly dispose of all the trash. Yousif & Scott (2007) paraphrased Menocal (2005), “Roughly 7.1 million Guatemalans, or 68 per cent of the country’s 1.5 million households, burn, bury or dispose of waste ubiquitously, especially in rivers and streams,” (p.436). This leads to contamination and adverse health effects. This also leads to incredible waste. The world round, including in Guatemala, the poor often make their living scavenging useful items from trash dumps. This is a difficult and undignified way of life, but it reveals an important lesson that needs to be learned in Guatemala and in other countries. Much of what is thrown away should not be seen as trash, but treasure. The poor often have no choice but to recycle, and, therefore, it will not be a foreign concept to the women this business aims to help. (Yousif & Scott, 2007)

Vermicomposting is the practice of composting organic food using worms. Although perhaps gross, it is an efficient and natural solution to trash disposal. Of course, worms are not the only means to compost, but they are not labor or space intensive. As has been already discussed, the endeavor will be operated by poor young mothers. This will involve not only setting up and maintaining the compost bins, but selling the compost and building any necessary buildings. To further the effort to repurpose trash, the building will be built using trash. Both trash vermicomposting and trash buildings are being utilized in Guatemala, although not in conjunction, and they have proved successful in the short term. Much of what is currently being
done has not been around long enough to provide long-term results; however, the prospect is encouraging.

Goals

Long-term goals.

These goals are purposely very broad. The business will be governed by much more specific goals; yet, these will be reminders of the societal, economic, educational, and cultural goals the business wishes to effect in the long term. The long-term business goals are the following:

- Empower women to increase their families’ earnings and decrease their possibility of suffering domestic and other types of abuse by helping them develop dignified and employable skills that will pay fair wages.

  The simple act of a woman getting a job will not protect her from an abusive husband (He may, in fact, feel threatened by the fact that she is working), but economic empowerment may help women realize they are capable of changing their situations. Women who work may also have better access to information. Information is key because it shows women they do have rights and opportunities. It may be as simple as telling a woman that capital is available to her through a microfinance loan. (Menjivar, 2011)

- Eliminate the need for child labor allowing women to send both their daughters and their sons to school full-time (including capacity to pay any school fees).

  Women who work for pay are less likely to need to pull their daughters out of school for economic means. It will also mean that they will have more money for transportation and school fees. This is why economic development is so critical. It is one key to societal change. These
goals, however pleasant they may sound, are difficult to measure and will not be used to guide the business on a daily basis. A set of more specific goals will be used. These long-term goals are meant to inspire and to keep the business from reverting to a profits and numbers focus. After all, the priority of *Las lombrices y la basura para el futuro* is to cause a social change in addition to an economic one.

**Short-term goals.**

The project has one year and five year goals. At the one year mark, the goal is to have between three and five women participating, to have a structure to house the business, and to be generating a steady profit. The training during this year will focus on literacy, caring for the worms, basic bookkeeping, and microcredit. This year will entail a lot of work directed towards starting the business. Near the end of this year, the manager will gather the women’s input as to what topics they would like to study. During the following years, subjects such as more advanced bookkeeping will be taught, in conjunction with the subjects the women have selected. In the fourth or fifth year, advanced topics such as taxation, more advanced accounting, and other business topics will be taught. As new women join the group, the group can be split into two for educational purposes based on the women’s educational levels. At the end of the fifth year, the goal is to have 30 women participating, to have the business run totally by locals, to be totally and entirely self-sustaining, and to be making contacts with other women and other villages in order to duplicate the project. More research should be conducted in Guatemala to determine whether these goals are viable or should be expanded.
To help encourage positive societal change, participants will be asked to agree to the following statements before being allowed to join the program.

1. I will put a portion of the money I make into savings to build up a reserve to help me pay for unexpected expenses, for further education for my children, and for living expenses should I not be able to work when I am older. I will also put aside a portion of the money to pay for any school expenses.
2. I will regularly send my daughters and my sons to school, and I will regularly participate in the learning sessions provided by the project. If I have the ability, I will further my formal education.
3. I will not participate in, allow my children to become involved in, or provide money to criminal or corrupt activities. I will not pay or allow my children to pay bribes.
4. I will teach my children the importance of personal and environmental sanitation, including the need to recycle waste.
5. I will not speak about other people in a way that humiliates them. In my comments, I will attempt to always be constructive.

Although this is the organization’s code, it will not be fully enforced at once. Culture can take a long time to change. For example, Guatemalan culture is group- and people-oriented, and gossip forms a part of this community-orientedness. The organization will stress the importance of speaking well about others, because gossip, as has been discussed already, has a profound impact on women’s lives. However, it is understood that this will not change overnight. Likewise, families may not be in the position financially to immediately send their children to school. This code is intended to be a set of guidelines leading to long-term positive cultural change. Cultural sensitivity is an important value in this project, so these goals might seem to be in contradiction to that value. Any and all cultures have positive and negative aspects. This business protects the positive parts of *Ladina* Guatemalan culture while encouraging the women and community to reexamine the potentially negative aspects and how they can be reinterpreted to promote the

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25 See Appendix C for a Spanish version (by the author).
26 This code was based off of one found in Yunus (2007b). A number of the other features of the business, such as the savings and the emergency funds, are also based off the work of Grameen Bank which is described in Yunus (2007a) and Yunus (2007b).
economic and social development of underprivileged women and their children.

**Vermicomposting**

**Process.** The information from this paragraph and the following four largely comes from Mary Appelhof’s *Worms eat my garbage* which has been extremely useful throughout this project. Almost all of the information under the “Process” section comes from this book.

Vermicomposting is a composting method which recycles organic waste (fruits, vegetables, tea bags, egg shells, etc) by feeding them to worms, and Guatemala produces plenty of organic waste. Most anything organic can be composted, although there are a few exceptions. Meat and bones, as well as too much citrus, should be avoided. (Both can be composted, but meat smells and attracts pests, and too much citrus is poisonous to worms.) Non-biodegradables and dog excrement should never be added. (Appelhof, 1997; Agora Partnerships, 2012)

The worms and organic waste are held in a container with holes for air to enter. These holes are covered by netting. The containers should not be deep (18 inches or 45 cm deep at most) to ensure there is enough air throughout the composting material. Getting enough air is critical both to keep the worms healthy and to keep the container from smelling badly. (Appelhof, 1997)

One pound of garbage (roughly one half kg) needs one square foot (roughly one-tenth meter²) of box surface. This is calculated for a weekly basis. The worms are placed in a shallow box with bedding, and the garbage is buried within the bedding. This prevents the container from becoming too packed down or dried out. The bedding may be made of various items such as leaf mold, torn newspapers, manure, wood chips, coconut fiber or peat moss. Dirt helps the worms digest the food. It also contains different microscopic creatures such as mites that help break
down the organic waste. (Appelhof, 1997)

There are several different types of worms that can be used, but it is important to not use just any old garden worm. Redworms are common, but any type of worm that will process large amounts of organic waste will do. Earthworms, on the other hand, do not eat lots of organic waste. *Eisenia fetida*, *E. andrei*, *Lumbricus rebellus*, *Perionyx excavatus* (a warm-climate worm), or *Eudrilus eugeniae* (also a warm-climate worm) all work well for composting. The amount of worms needed depends not so much on the number of worms but on the mass. It is a matter of how much mass of worms can consume the amount of organic material put into the container. A pound of worms will consume the same amount of material regardless of the actual number of worms. One pound of worms can eat one-half pound of garbage per day. Every one foot³ of space in the bin can take one pound of worms but only half as many worms are needed to start because they will reproduce. It does not matter much, in the long run, if one buys only worms of a mating age or worms of all ages, because they will eventually all start reproducing. (Appelhof, 1997)

There are two end-products of vermicomposting. The first is vermicompost. This is material that is partially decomposed. The second product is vermicast, which is completely decomposed. It is not as coarse at vermicompost, but it is less beneficial both for plants and for the worms. Most of the worms will have died by the end of six months if no new material is added. The worms are not high maintenance and can be left alone for up to two weeks but should not be abandoned for more than a month. (Appelhof, 1997)

Worms are sensitive to temperature extremes. Cold should not be a problem in Guatemala, but heat could be. 59-77 degrees F. or 15-25 degrees C. is optimal. Temperatures
above 86 F or 30 C. should be avoided, but, just because this is the temperature outside, does not
mean that it is the temperature in the container. A damp container with good air flow will have a
cooler temperature. An acidity between pH5 and pH9 is best. It is important to control the
amount of water in the container. When the container is first assembled, it will be necessary to
add some water, especially if the worms are dehydrated. Organic waste has a lot of water in it,
and this adds to the water build up. Also, as the worms and other small creatures that live in the
container decompose the organic material, carbon dioxide and water are produced. The bedding
will also need changed from time to time. The worms should be generally well-cared for, but it is
also important to not over-care for the worms. (Appelhof, 1997)

Environment and schedule. The vermicompost takes two to three months to become
ready, so, for the first couple of months, there will be no business, but once this has been started,
new containers can be started every two weeks in order to supply a steadier stream of income.
This is, of course, dependent on having enough material to continue adding to both the older and
the newer worm bins, and the time frame may be adjusted as needed to fit the amount of waste.
In the beginning, there will be a fair amount of work because of the assembly of the containers
and the construction of the buildings. After this, the worms will need fed on a weekly basis, and,
anytime the conditions in the container become unsuitable, adjustments will need to be made,
but, for the most part, the worms can be left alone. More time will be required when the compost
is ready because it will need to be marketed and sold after the worms have been removed. Project
Harvest, an organization working in Guatemala with subsistence farmers to increase their food
production around the year, (n.d.) states that the dry season, which lasts six months, can be very
difficult. This period goes from November to April (“The problem”). However, this program
helps poor families cultivate food throughout the year and advocates using organic methods,
such as composting (“A Solution: An Holistic Approach to Family Food Security”). In addition, the country faces a number of roadblocks to development which are “[the] absence of a comprehensive water management policy; water pollution; deforestation; soil and land degradation; and vulnerability to natural disasters and climate change. Guatemala is among the five countries in the world that is most affected by floods, hurricanes and earthquakes” (UNDP, 2013, p.1). Any organic waste available during the dry season will be collected and processed. As demonstrated by Project Harvest, cultivation can occur year round, so there will still potentially be a market for fertilizer in the off season. (Appelhof, 1997)

**Need for organic alternative.** The reader may wonder why Guatemalan women should go to such lengths to produce a natural fertilizer or whether there is even room in the market for such a product when chemical fertilizers already exist. The Maya accepted non-organic fertilizers because it significantly increased crop production, but they have spoken against the health risks and the long-term risks to the earth. Investigations into the matter have shown that these chemicals have hurt these communities. Although effective, the long-term effects of these chemicals have been negative for Maya groups like the Kaqchikel. Even though this business does not work with the indigenous segment of the population, these groups illustrate the need for natural fertilizers in Guatemala. Many Maya do not have money to buy organic fertilizer, and, if chemicals are applied for long periods of time, it can take up to eight years for the effects to wear off. In other words, during these eight years, organic fertilizer will not be as effective as possible. This makes using organic fertilizers difficult both financially and agriculturally for the Maya and is part of the reason that they are not widely used today. It also shows the difficulty of switching back to more organic farming methods. The case is likely the same with *Ladino* farmers and gardeners. Selling vermicompost would benefit the soil and the humans but would also overcome
the lack of access to this beneficial product. (Carey, 2009)

**Benefits of vermicompost.** Vermicompost has been proposed as an alternative to chemical fertilizers. The problem has been that the need to maintain or desire to augment production has pushed people to adopt chemical fertilizers as a means of significantly increasing production capacity. Yet, chemical fertilizers can have harmful effects on human health because of improper application techniques. There have been various studies done on the benefits of different mixtures of organic and inorganic fertilizers as well as the effectiveness of organic fertilizers on different species of plants and the different benefits of different types of organic fertilizers. Organic fertilizers contain key nutrients which help the soil. Soil sustainability is important for sustainability in general. Organic fertilizer does not pollute ground water, and there is less of a risk of the plants being burned by getting too many nutrients. At the same time, the Kaqchikel have found they have to apply more chemical fertilizer to produce the same amount of crops, and the prices for this fertilizer has risen. Although there are benefits to chemical fertilizers, among the Maya, at least, they are now causing a financial crisis among poor farmers. Karmakar, Brahmachari, Gangopadhyay, & Choudhury (2012) wrote, “Suthar et al. noticed that the vermicompost has a high nutrient value, increases fertility of soil and maintains soil health,” (p. 803). Vermicompost, then, appears to be healthier than chemical fertilizers. By replenishing what is lost through plant growth, organic fertilizers can help ensure soil sustainability. However, there is still a problem of production scale. Organic fertilizers cannot maintain the level of production that chemical fertilizers can. It may not be feasible for farmers to switch entirely to organic fertilizers if they are to keep up their current level of production, but a partial switch to organic fertilizers could still be beneficial. It could also lead to a decrease in costs for the farmer. Mandal, Ghosh, & Chattopadhyay (2013) wrote, “Application of organic inputs in combination
with chemical fertilizer were found better option [sic] than application of organic manure or chemical fertilizer alone,” (356). It is clear, therefore, that there are benefits to using organic fertilizers such as vermicompost, compost, and manure. (Carey, 2009; Mandal et al., 2013; Byoeart, n.d.; Sangeetha, Paramasivam, & Jegadeeswari, 2011)

**Trash Component**

The business will be housed in a building built with two basic materials. The foundation will utilize old tires that have been filled with earth. The walls will be made, in part, out of pop bottles which have been stuffed with non-biodegradable trash. The bottles will be assembled into a wall using wire and wood to strengthen the structure, and the holes will be filled with dirt. This work is labor heavy at some parts. Therefore, the women who have agreed to participate will ask men in their families to assist during this part of the process. This serves two purposes. First, since some of the work is difficult, the women may not have the strength or may not consider it appropriate to do such work. Second, involving male relatives in the beginning is a way to garner their support. This is particularly important since the program targets young mothers. As previously explained, mothers who work may be seen as neglective, and their male partners are not always supportive if they do decide to work. Involving the men will help to gauge whether the man’s approval will become an issue and will help build credibility with the community through transparency. Using trash to build is not a new concept, but it has long been associated with slums. In recent years, alternative construction materials have begun to emerge as a possibility for sustainable architecture. Although this type of building might seem unsustainable in the sense that it is not made of concrete or other supposedly more durable materials, it is a trend that should not be dismissed. The hope of this project is to inspire

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27 This idea comes from a project discussed by Temple & Rose (2011).
other Guatemalans to help deal with their trash problem. Temple & Rose (2011) wrote,

Because tyres [sic] are built to be durable they persist in landfills for many years, where they can leech [sic] chemicals, breed mosquitoes and catch fire. Their durability makes them an excellent casing for rammed-earth elements. When filled with earth they become a strong, easily stacked and appropriately sized component for building and retaining walls (p. 1049).

This solution utilizes the very problem it seeks to solve. Long Way Home, an organization working in Guatemala, with which Temple & Rose are affiliated, has also built a small restroom out of trash-stuffed pop bottles and plans, at the time of writing, to build a 2000 ft² library out of trash. Therefore, these materials should not be dismissed simply because they are not “modern” or “new.” The developed world often has a mentality that only shiny new things are useful or valuable, but this is clearly not true. (Temple & Rose, 2011, p. 1050)

Other projects

Vermicomposting and using trash to build buildings are not new techniques. Both have been used by organizations working in Guatemala. While this project is not entirely unique, there is still much need in the country for economic and environmental development. The fact that both of these ideas are being utilized demonstrates that they are viable projects within the culture. There are a number of economic development projects being carried out in Guatemala. One of the most pertinent to this project is an endeavor called Byoeart which uses worms to create vermicompost in order to provide work for poor women around Guatemala City. The company’s mission is to help farmers stop using chemical fertilizers. Byoeart could potentially be a competitor, but this does not necessarily have to be the case. There are still many people in
the country who need help. Byoearth is focused in and around Guatemala City while this project is slated to work in a more rural area. The company wants to increase the number of farmers using organic fertilizers, and it sells worms to poor people wishing to start a fertilizer business. Rather than being an opponent, Byoearth is a good candidate to be a partner, especially since they want to spread the benefits of vermicomposting. Another project is Long Way Home. This is an American organization that has worked in Guatemala to use tires, pop bottles, and other inorganic trash to build a school. Banrural is a Guatemalan bank focused on the economic development of the rural portion of the country. KIVA is an organization which helps people with money loan small amounts to entrepreneurs who cannot otherwise get access to capital. It partners with a number of local microfinance organizations in order to accomplish its work. KIVA works in Guatemala with several local microfinance organizations. Mi Familia Progresa is a program which gives families with children small amounts of money as incentives to ensure the children are well-cared for and are not taken out of school. There are many more projects being done in the country which target a number of issues. (Agora Partnerships, 2012; Temple & Rose, 2011; Banco de Desarrollo Rural, S.A., n.d.; KIVA, n.d., “About Us”; KIVA, n.d., “About Us: Our Field Partners”; World Bank, 2011)

**Human Resources**

As this business will have had no experience in Guatemala, it will look for a Guatemalan partner willing to help with the adjustment process, in the case it is spearheaded by an expatriate. This partner will be able to help the business navigate the legal aspects, as well as the cultural ones, and will help the business establish connections. To provide encouragement and accountability, this project will use a group structure, starting with three to five women from different families. The main focus of the women will be collecting the organic waste, feeding it
to the worms, harvesting the compost, and selling it. They will also help to collect the trash to build the buildings, particularly the plastic bottles. Since they are the ones who will have connections with their community, they will do much of the marketing. As they experience the project, they will be able to garner the support of other women in their community. Although it is not within the scope of this model, the project desires to eventually replicate itself. At this point, it will be useful to have the local women help train new startups.

Training

Nothing is more empowering than knowledge. The legacy of poverty and inequality which dates from the colonial period continued throughout the civil war and still has an incredible grip on the country. This history has not been hospitable to formal education or development. Since many women do not have any formal education at all and many more did not complete their education, some instruction will be both necessary and beneficial, and this will be tailored to meet the needs of the women. First, basic literacy issues will be addressed. This could be delegated to another woman who has mastered these topics. Next, the women will be trained in basic accounting procedures. Women will learn to record their costs for raw materials or inventory, their sales, and their profits. (Basically, they will record their cost of goods sold, operating expenses, sales, and net income.) They will be taught basic principles about the importance of keeping their books balanced, accurately recording transactions, and keeping personal and business assets separate. The purpose of this training is not to make the women proficient in accounting regulations but to give them basic skills they can use in whatever business endeavor. (However, once basic training has been completed, more advanced topics such as taxation and starting a formal sector business will be addressed.) The most important issue for these women is to be able to provide their families with a steady income. In addition,
the women will be taught how to save and take out a microloan. This business model will be built on group involvement which involves regular meetings. A part of every meeting will be devoted to education. Since women are expected to care for their children, having young ones at home could pose a barrier to participation for some women. An attractive aspect of this project is its simplicity. It is something that children can be involved in, and mothers will be allowed to bring their children to meetings or work, as needed.

Management

At first, management will need to be done by an outsider, until the participants can be trained. This is meant to be a locally managed business with the women doing the management. More specifically, three of the women should be able to read. If there is no one with enough education, the outside management will take care of these duties until sufficient training can take place. Since this project’s aim is development, each woman will be trained in basic business and bookkeeping topics. This serves a triple purpose. First, having multiple people with these skills will ensure accountability and foster a sense of ownership of the business for each of the women. Second, such training will allow the women to teach others or to start other ventures, should they one day no longer be affiliated with the project. Third, this keeps the responsibility of bookkeeping from becoming a burden for one woman and ensures that there will be others to replace her should she be no longer able or willing to serve in this capacity. However, to avoid confusion and unnecessary disputes, one person will be nominated by the women to serve as the bookkeeper, and another as treasurer, as soon as there are enough capable women. In addition, there should be one woman with no accounting or treasurer responsibilities who has sufficient literacy skills to act as a balance. The treasurer and bookkeeping responsibilities will always be held by different women, to ensure accountability. The group will delegate all other
responsibilities among themselves. Finally, these roles will be defined as the project grows and more women receive training.

Feedback

To ensure the success of the project, the women involved will be a part of the day-to-day running of the business. They will also be consulted in making larger decisions. These women know more about the conditions in the country and region than an expatriate could, and this will be valuable information in making decisions that will ensure the project’s long-term sustainability. When first entering the community, the expatriate will first present the general business concept (Appendix B). Then, if there is interest, the expatriate will approach women who have shown interest with a more detailed job description. The Hofstede Center (n.d.b) wrote, “Communication is indirect and the harmony of the group has to be maintained, open conflicts are avoided….Feedback is always indirect, also in the business environment.” (Hofstede, n.d.b, “Individualism”). The feedback system should be effective while ensuring the feedback process does not make participants feel uncomfortable since this might present a barrier to getting this feedback. Despite the high power distance, the project will foster a practice of inclusiveness in decision-making so that the women feel free to contribute their opinions. This will help the business remain innovative and culturally sensitive since the women know their culture the best. It will also help to avoid costly mistakes that might be committed because of oversight. To help foster this spirit, the business will periodically have meetings to discuss issues and ideas with a portion of each meeting set apart for brainstorming answers or ideas without any critique. Anyone participating will be allowed to add an idea, and the idea will not be judged, in order to facilitate conversation and encourage sharing. Only after this session will the group begin to evaluate each idea. A means of giving feedback anonymously will also be used if it will
encourage responses.

**Consumer Base**

Vermicompost has a variety of uses. It will primarily be sold to farmers. It can also be marketed to families as a fertilizer for their garden plots and plants. The benefit of this method is that much of the marketing can be done through the personal contacts of the women. Because this approach focuses on bottom-of-the-pyramid marketing, prices will need to be low enough to be affordable. The project must be lean, and the input (organic waste) is inexpensive. The product market is not limited to *Ladinos*. As discussed above, there is a history of organic fertilizer use among the Mayans, but chemical fertilizers are now much more common. The vermicompost will be sold to Mayan farmers who want to use organic fertilizers but who do not have access to it, since this is an idea they are already familiar with. This is a population which shows a clear need for the product, and their traditions indicate this is a product they will want, so long as they can continue their current production levels. At a minimum, they could use it in conjunction with their chemical fertilizers, which would still provide a market for the product.

**Marketing**

Since this is a small lean operation, there will not be money for expensive advertising. Furthermore, many typical marketing mediums, such as advertisements in the newspaper, may be inappropriate for the consumer base, many of whom are too poor to afford televisions and who may be illiterate. These are not entirely absent from the poorer classes, but they are not all-inclusive, and using them could become expensive. The marketing will be done by the women themselves, relying on word-of-mouth, primarily. In addition, the women will be allowed to take home vermicompost for their own gardens, so they can benefit from the product, and so they can
have real experience with it as they sell it to others. Given that this project will be financed through micro-finance, a website will be used to build and keep contacts with investors, and the product will be marketed there as well. The website will primarily be maintained by the manager but could afford an opportunity to teach computer literacy. The only time the marketing will not be done by the women is when the needed contacts are out of their geographic or social range (e.g. contacting other NGOs, finding contacts to replicate the business in another area, dealing with situations where the power distance is high, etc.) A logo to use on any print material and the website will be designed in conjunction with the participants. The vermicompost will be marketed as a healthier alternative to chemical fertilizers. Although it might seem like the poor would not care about green alternatives, the pollution and its side effects that come from chemical fertilizers can be used to promote the vermicompost. The trash-building will be a visual reminder of both the pollution that exists within the country and the possible solutions to this pollution. Furthermore, the social responsibility of the product (helping the poor) will be another selling point. Byoearth is proof that there is interest in Guatemala both for environmentally safe products and assistance to the poor. From the cultural topics discussed in chapter one, it is also clear that a woman can work outside of the home and maintain a good reputation. In fact, a poor woman will receive help if she has a good reputation. This project will need to maintain a positive image while still being willing to help women with less than perfect reputations. It will do this by accepting any woman who wants to participate with the goal of being transparent in all of its operations so the community perceives it as a respectable place of employment. Hopefully, this will also help women with tainted reputations regain some credibility. Unfortunately, women with good reputations may not want to work with women with bad reputations, but this is an issue that will need to be addressed on an individual basis. (Menjívar, 2011)
Supplier

Although the business is using waste materials, it still needs a supply. Each of the families involved will donate their own organic waste. In addition, they will ask their relatives, friends, neighbors, and the wider community to donate their organic waste. There are several benefits to this donation model. First, it cuts down on costs for the business. Organic waste is typically seen as garbage, and families throw it away. It will be easy to utilize the contacts the women have within their community by offering this as a service. The community households are getting rid of their trash for nothing, and the business is gaining a key input, also for nothing. Second, it may cut down on the costs the households have to pay for trash removal, in the case they pay for the amount of trash they dispose of. Third, it decreases the need for households to dump their waste, often illegally, thereby reducing pollution. (Although organic waste is good for the soil, dumping it into a garbage dump means that it ends up mixed with toxic elements, and there are other issues, as well.) Therefore, preventing organic waste from ever reaching a dump and converting it into vermicompost is much better for the environment and the people living in that environment. The model of vermicomposting used leads to a steady stream of worms, but the original worms will need to be bought, and more worms may need to be purchased as the production expands. If possible, the business will also breed worms to avoid the expense of buying and shipping them. Local composting worms will be used, if possible, to avoid the need to import worms. The third supply needed is the trash to build the building. The business will contact any mechanics in the town to see if they would be willing to donate old tires. The project will inquire into the possibility of taking materials from the local dump, if there is one, in a safe and legal manner. (Temple & Rose, 2011)
Legal

**Entering Guatemala.** Starting a business in Guatemala requires several steps. First, the owner must check that the company’s name is not being used already and must get a letter from a notary to open an account at a bank. This letter must contain the location of the business which must be approved. Therefore, it will be necessary to recruit participants and acquire a location before beginning the paperwork. Next, 5,000 Guatemalan quetzals must be put into the account. At this point the legal papers are written and the business registers with the Superintendencia de Administración Tributaria (tax agency), the Instituto Guatemalteco de Seguridad Social (social security agency), the Ministerio de Trabajo (labor agency), and the Registro Mercantil (commercial registrar). The notary fills out paperwork declaring the official owner. Registration with the commercial registrar, social security, and tax department must be completed. The commercial registrar publishes the company so that anyone can bring complaints within eight days. Once this period is up, the business is official. There are substantial fees related to hiring a notary and completing the paperwork which will be factored into the amount of the original investment. In addition, the business, in the case it is run by an expatriate, will contract with a Guatemalan firm which specializes in helping people set up businesses in Guatemala to ensure that everything is done properly. (The notary is responsible for much, but not all of the registration process.) (Doing Business, 2013)

**Accounting.** The participants will be responsible for some of the bookkeeping and money aspects, but any accounting required by the Guatemalan government for legal purposes will be prepared by either the expatriate manager or a Guatemalan partner who is familiar with the requirements and has the necessary education to deal with the legalities. This will be based off of the information recorded by the women, but the manager will review this work
periodically to ensure its accuracy.

**Financing**

This project will be financed through microfinance. In recent years, microfinance has grown in popularity as a powerful tool for social development. It works on the principle that often a small loan of even $25 can help an individual help herself out of poverty. Since the poor lack collateral, they are often cut off from financial services provided by banks, such as loans. They have no access to capital, which impedes their progress. Microfinance asks individuals to lend small sums (some range to several thousand dollars but are much smaller than loans banks give businesses) of money to entrepreneurial individuals. The individual takes the money, using it to start or continue a business, paying back the principle at a low interest rate. This allows her to generate an income for her family and, often, frees her from the exorbitant interest rates charged by local money lenders. It is a true loan, not a grant or a give-out. The individual must make the payments on time. As such, it provides an alternative to throwing money at the poor because it involves them in their own liberation from poverty by giving them access to the resources, capital, and financial literacy that they so badly need. It helps them build their credit, and some programs require that participants set aside a certain percentage of the loan as savings. Therefore, microfinance opens the way for long-term solutions to the long-term problem of poverty. Microfinance goes well with the goals of this project to empower women to craft better lives, and it is common to lend money to groups, in addition to individuals. Furthermore, microfinance is a way to involve others in the project who might not otherwise have contact with the developing world or the poor within their own country. This organization does not have any of its own capital to invest, so it would be unlikely, if not impossible, to secure a loan from a

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28 See Yunus (2007a), Yunus (2007b), and KIVA for more information on micro-finance.
normal bank. The fact that this will be funded utilizing microfinance means that startup costs and overhead must be low. (Unfortunately, there are costs associated with setting up a business in Guatemala.) This is another reason why almost all of the business will be conducted locally by locals. It would be much more expensive to move expatriates to Guatemala to do the same jobs that Guatemalans can do. There are two possible sources for microfinance for this business. First, it could go through a microfinance organization, several of which already work in Guatemala, or it could set up its own microfinance system using a website to gather funding for the loan. Once the organization has been established within the community, it will seek financial partners within the community in which the project is operating, in order to foster community involvement in the project. (Yunus, 2007a; Yunus, 2007b; KIVA, n.d., “About Us”)

Financial sustainability

Sustainability is one of the key components of this project. One large problem poor families have is the inability to pay for emergency expenses, such as doctor’s bills. A large bill could lead to a couple pulling a child out of school to get a job to help pay for the expenses. Poor families are unable to pay for these irregular expenses because they do not typically make enough money to put some aside. Therefore, savings will be a part of this project. Each woman should set aside a part of her income to pay for such expenses. In addition, as a part of the profits, money will be set aside for an emergency group fund, from which the women can borrow in times of great need. They will then pay the amount back to the fund later, as they are able to.

Security

Guatemala has a difficult security environment. An expatriate manager would face the normal security issues of traveling in a foreign country, but these should diminish the more time she spends in the country as the locals get to know her. This will be solidified by respecting
cultural values, such as clothing. A much more pertinent issue is the drug trafficking and
government corruption. The business will be located in a respectable part of the town, near to the
women’s homes, if possible, and in a section of Guatemala not controlled by drug and crime
lords. In addition, none of the project’s activities will be scheduled at night so women will not
have to walk alone in the dark or be out in the streets. In order to help avoid this, the company
will choose a man to be its Guatemalan partner so that the female manager does not have to
travel alone. The project will seek the blessing of the community’s leadership and involve the
community in the project so that the community will value the business and want to protect it.
Finally, as the project chooses a community to work in, it will ask for a pastor or priest to be
involved. This serves the purpose of providing security for the women, and the fact that this man
has a religious vocation will help avoid gossip about the women talking to or walking with a
strange man. These security measures will help decrease the possibility of putting women in
dangerous situations, encouraging them to join the project, but it is impossible to foresee all
possible ramifications. At some point, it becomes necessary to take a calculated risk, and it will
be up to the women to decide whether the benefit of the project is worth the physical risks and
the potential slights to their reputations. (Brands, 2011)

Weaknesses of the model

There are several issues related to this study that have not been addressed. The biggest is
financial data: accounting statements to prove the financial viability of the project and project
growth over the first several years. The second aspect not covered here is the long-term viability
of the construction methods. The building must follow any building regulations in Guatemala
and also be sturdy enough to withstand the earthquakes, floods, and hurricanes which are prone
to occur in the country. More research will need to be done to verify that using the proposed
methods will, in fact, be safe. Third, no information about the use of chemical and organic fertilizers among *Ladinos* is given due to a lack of research in this area. Fourth, the author’s research has shown that both vermicomposting and trash buildings are being used in Guatemala, but not in conjunction. More research is needed to ascertain this; even so, poverty is a great burden in the country and there is certainly room for this project even if something similar exists. (UNDP, 2013)
Conclusion

This project is a synthesis of cultural analysis, business information, and sustainability. The cultural analysis has given the reader a better understanding of the country and business environment, as well as, the need for such a business and the potential problems of operating in the Guatemalan culture. It introduced the concept of a social business to readers who may be unfamiliar with the term. The preceding pages have laid out a model for one way to alleviate poverty among women and their families in Guatemala. It is not a full-blown business plan and was never intended as such. It was intended to be the capstone of a creative process. It has very much been a process of discovery, and I have learned a great deal while writing. In the event this model were to be implemented, this project would need to be developed into a more detailed plan containing financial information, in particular.

The most important points of the entire project are indigeneity\(^{29}\), empowerment, and sustainability. Although this model was written by an American to be implemented by an American, its purpose is to empower and enable. Handouts and charity, albeit sometimes necessary, are not typically sustainable, which the opening quote hints at. Sustainability must be arrived at through the empowerment of the locals. Within this project, sustainability has taken on an ambiguous nature. Sustainability is giving someone the tools to make long-term and replicable changes to her state, but quality of life is so closely tied to the ongoing quality of nature. Sustainability, therefore, refers to both sustainability of a dignified quality of life and sustainability of a healthy natural environment in which to live. Social businesses create sustainability in people by helping them develop their human capital. Vermicomposting and

\(^{29}\) This term refers to the desire that the business be culturally sensitive and locally run. It does not, here, refer to the indigenous groups of Guatemala.
trash buildings curb the volume of trash thrown out by repurposing this trash into an asset. Much of what gets thrown in the trash is seen as worthless; otherwise, it would not be there in the first place. This project wants to teach people that much of what is thrown away does have value and can have a second life.

Empowerment, although implying the importance of the person being empowered, requires the full engagement of someone who has the knowledge and desire to empower the helpless. For too long, people of developed countries have been unaware of the conditions in which a significant portion of the world’s population lives. It will only be when people from these countries, particularly the youth, become conscious of the problems that exist and engage them in creative ways that there will be any real progress in the relief of poverty. This project has been the beginning of my journey, and social business will continue to be a part of that journey. Finally, I would like to encourage my readers to engage the world’s problems and find their own creative solutions for them. I am a great believer in the ability of youth to make a great difference.
References


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Appendix A

Vermicomposting journal

Halfway through writing my senior thesis, I decided it would be a good idea if I actually had some experience vermicomposting. Everything that I had done up to this point had been secondary in nature and theoretical, and I wanted to bring some experience to my defense, so, in the month of January, I decided to start. While I would never have done this if it were not for this project, I was glad to start it. Up until this point, I had become aware of the need to recycle and be more environmentally friendly. Despite this knowledge, my family’s recycling consisted of turning in soda cans and my mom saving and reusing tin foil to bake cookies on. I admire people who minimize their impact on nature in every aspect of their lives, or try to, and I was aware that I was doing virtually nothing to lessen my own impact, mostly because I never found the time to research and carry out any possibilities. This project has become a way for me to feel that I am doing my part, even though there is much more that needs done. In September of the previous year, I could never have guessed that I would be so anxious for a package of live worms to arrive on my doorstep. It was the second week of January, and we had had days with temperatures below zero. I struggled to find an appropriate container, but finally located some bins for a reasonable price, and my dad drilled some holes in them for me. (He also cut up some two-by-fours.) I assembled the system, and my mom picked up a garbage bag full of old newspapers a family friend said she would give me.
Trial Week: January 2, 2014- January 9, 2014

This week I have collected the organic waste that my neighbor Terri James, a friend Kay Vega, and my family of four (myself included) produce. Altogether it came out to 9.1 lbs. which was much more than I thought we would produce.

January 15, 2014

The one pound of worms arrived, and I put them into their new home with food, black and white strips of newspaper, and half a cup of water. They are very small because they are dehydrated, and they mostly stick together in a mass. They look dead but are really just in a comatose state.

January 17, 2014

The last two days I have added organic waste. I did not measure how much. I have found that my worms like to try to escape, but I have only found a few at a time and have been checking the bin twice a day putting the worms back in the bottom of the bin. I checked them this morning and put a few back down in. When I checked this evening, 12 worms were trying to escape. I then noticed a white mold growing in the bin. Mold can naturally occur when first setting up the bin, if the food has been sitting decomposing a week before the worms are added. This was the case with my food which I had collected for a week and then let sit for another five days. The mold is not necessarily harmful; in fact, it is normal since the container is wet and contains decomposing food, but too much continuing mold can be a problem. I will keep watching the next few days to see what happens. Upon digging in my bin, I found there was also some black mold. I found that primarily the mold was growing on bread that I had put in, and I took these pieces out. Also, my worms are growing bigger as they rehydrate, and they have
spread out through the bin. I built my worm bin (according to a web page sponsored by Washington State University, n.d.), but I am using the lower bin to catch the liquid instead of having a two-tier system. I decreased the size of the holes in the bottom of the upper bin so the worms couldn’t get out. I also thought the bin might be too moist and that might be causing the worms to escape, so I added some newspaper. I was digging through the bin (It smelled horrible, from the mold.), and I saw some small white dots. I need to investigate what these are. They might be another creature that thrives in food-rich conditions. I also need to investigate how much in coffee grounds I should add. (Christie, 2009; Christie, 2008)

Mold is caused when you overload your worm bin. Basically, there is too much food for the worms to process, so fungus starts to grow taking advantage of the moisture and extra food. I will throw out the organic food we have already gathered to get rid of the possibility of introducing more mold and start collecting again. At first, I thought that my worms could handle seven pounds of garbage a week, or would be able to once they doubled their numbers, (I based my calculations off of information in Appelhof, 1997) but, so far, I have learned that it will take them three months to double in number, near the end of my project. (Christie, 2009; Planet Natural, n.d.)

January 19, 2014

Yesterday I found a bunch of worms crawling about the sides and lid. Today, I did not check the bin in the morning, as I have decided to check it only once a day. When I checked it this afternoon a little past four in the afternoon, I found ten worms climbing around, but none on the lid. I poked around a little, and the worms seem to have spread out, although a number are on the bottom of the bin in one corner. I think this may be where I set the bunch when I first put
them in, or maybe they found something they liked. The system seems a little bit too wet still. I checked for the white specks I had seen before, and there were more, but, upon investigation, I found they were hard and crumbly, almost like chalk. I’m not sure what this is, but I think they may be crushed egg shells, which I did add to my bin. I checked and there was no water in the bottom bin, although there was a bit of dirt. The system must not be too wet. It hasn’t been smelling at all, except when I have it open, and, even then, it’s not too bad, although my nose is not really sensitive. We lost power yesterday evening, but, thankfully, it came back on quickly. I was afraid that, if it didn’t come back on, my worms would freeze to death. There is still some mold, but I am not sure how much. It is hard to tell what the worms like, but I found one in a moldy onion peel, obviously enjoying itself. (Christenson, 2013)

January 21, 2014

I did not check on the worms yesterday or today until the evening. There were roughly 55 crawling up the sides, but they seem to be getting bigger. I decided not to add more food like I was going to because I found some lettuce and banana peels with mold. A banana peel seemed to be popular. The whole thing seems a little wet, but I am not sure. The bin has started to generate some heat.

January 27, 2014

I found little white creatures in my bin. I think they are white mites. They certainly move fast. I hope they will not infest the room. I am also seeing some mold. I think the mites might be there because my bin is too wet and has too much food. I am just going to let it sit for a week. It may take a couple of weeks for the system to get started. The mold supposedly helps break down the food for the worms. (WormCity, n.d.; New York Worms, n.d.)
February 2, 2014

I’ve learned that, like bread, coffee grounds mold quickly, so I will not be adding those for a while. In fact, I have not been feeding the worms anything in the hopes of cutting down on the mites and mold. It has been several days, at least, since I fed them. From what I saw today, there was not a lot of mold, but I did not dig around a lot and the light was kind of bad. Still, nothing was apparent. I saw a few mites, which I attempted to smash. Although they are good for the system, I do not want them infesting the house or the cat. Today, I found some flying creatures escaping from my bin. Fungus gnats or several types of flies are the flying creatures that exist within a bin. None of them are predators, but only the soldier fly brings any benefit to the composting process. There are several different options. There was also some food left, some egg shells and carrots, so I did not add any food. (Terri James, February 2, 2014, personal communication; Nature’s Footprint, 2012)

February 4, 2014

I learned from a work colleague, who has experience composting, that compost heaps need to be turned at least once a week, so, I turned mine. I also left the top off (as suggested by Appelhof, 1997, p. 101) and put the fan on to try to dry it out. It is still wet. I did not see any mites. I also did not see any flying creatures. I think that I might need more bedding. The whole thing is a little shallow, actually, very shallow, but there is still undigested food. In part, I think that the carrots must be too hard for the worms to digest, so it takes a while for them to break down to the point where they can be digested. I have heard that potato peels take a long time to
decompose because of solanine and that nuking them can help, so I may try that with the carrots. I think I will also add more egg shells. Some of the worms are still small, but some are quite long and fat! They are definitely thriving. When I go digging through the pile, there are lots of worms moving. My colleague also suggested that the pile might not be hot enough because of a lack of air. She said that if it is smelling it is getting a good amount of oxygen. Heat is a sign that the decomposition is occurring, but I heard that good aeration leads to less smell. I can sometimes feel some heat coming off it, but probably not enough. (Roberta Perry, February 4, 2014, personal communication; bejay9_10, 2007; Appelhof, 1997, p. 13)

February 11, 2014

I looked into my box today, and one of the first things I noticed was lots of little white specks on the sides. They did not look like they were moving. Then, upon digging into my box, I found whole colonies of them on my potato skins. Yep, I think my mites are getting out of hand. I do not know if these are just mites, or mite eggs, but I am going to try putting a piece of watermelon rind in the box to collect them. The potato skins are disintegrating. I think freezing them, thawing them out, and putting them in the microwave helped soften them up. On one, all of the potato was gone and only the skin was left. The skins disintegrate more slowly than the insides do. I do not think that any of the skins have disintegrated yet. The interiors are a disgusting slop, though. The worms look healthy, and there seems to still be a fair amount of them in the box. I think I may have seen an egg cocoon also. My coworker told me that I should try putting the box by a window to try and generate more heat, but I do not know whether the winter sun is going to do much, and I am not sure that the same suggestions for composting apply to vermicomposting, but it cannot hurt to leave the box with the lid off near a source of light. I think it may still be a little wet, and I think that I need more material for the worms to
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crawl in. The material seems too shallow, and it is denser at the bottom with a large layer of newspaper on top. However, near the bottom, I can see that the process is working. There is this crumbly dark stuff. A good portion of it is probably the dirt that I threw in at the beginning, but I did see some partially decomposed bits. Also, the eggshells that I laid under the potato skins have not been decomposed yet. I am not sure if it just takes a while, if the worms do not like them, or if there is too much. I am debating putting more food in because I think that egg shells must take a long time to decompose, since worms do not have teeth. I should probably pulverize the shells in the future (according to Uncle Jim’s Worm Farm, 2011), and the potato skins take a long time too, because I don’t want my worms to starve to death. I also know that sometimes people will allow the food to decompose for a while before adding it. Byoearth (n.d.) suggests this method. (Hungry Bin, n.d.; Roberta Perry, personal communication, February 11, 2013; Uncle Jim’s Worm Farm, 2011; Appelhof, 1997)

February 13, 2013

Watermelon rind is a good way to get rid of mites, so I placed some in my bin, and I will check on it in a couple of days. Some of my worms are quite large now. (Hungry Bin, n.d.),

February 17, 2014

The watermelon rind is attracting lots of little white creatures which I assume are mites, but they are not moving. I wonder if they are a type of mold, but they could be mites sitting still to eat. I put in a couple of pieces with some fruit left on them, and the worms love it. Interestingly enough, the pieces with fruit have not attracted as many white creatures, and the rind without fruit did not attract hardly any worms at all. When I pulled it out, I had to put one worm back in the bin. So far, I have been removing the rinds and throwing them away, but I left

the ones with the fruit in the bin. I have not given them this much food in a long time, so it could be that they were just really hungry and were eating whatever I gave them. Yesterday, I added some tomato skins and pulp. Today, I also found a mass of worms under the tomato skins and rinds which was on top of some newspaper, and the worms were in the newspaper, but it appeared that they too were enjoying the tomato. I put some more tomato in today, along with a cut up banana peel which I had frozen in the hopes of killing any fruit flies. I do not know if freezing will kill fruit flies, in the case that there were any in the peel to begin with, but it left my peel soggy. The food I have been putting in is wet, and the bin is starting to get wet again.

February 20, 2014

The watermelon is definitely a big hit. The tomato skins and centers are also going over well. In the week the watermelon has been in the bin, the worms have eaten almost all of the fruit, and the white creatures are now starting to appear en masse, whereas, while there was still fruit, there were far fewer of them. I’ll take the old rinds out tonight and add a new one with some fruit on it. The banana peel I put in is not garnering a lot of attention, although I found one worm in a piece of the peel, and the white creatures are taking advantage of the situation. There are not as many as on the watermelon rinds, but it has only been in the bin three days.

February 24, 2014

A few days ago I put in some frozen and thawed zucchini and carrots. I later took out the carrots because they had a lot of white creatures on them and looked like they might also have some mold on them. Today, the zucchini is well on its way to decomposition, and the worms are eating it. Only the tomato skins are left, and even those are being eaten. Today I put in more potato skins that had been frozen and thawed. I also threw in some more newspaper because the
box is too wet. I put the potatoes on top of a layer of newspaper. Hopefully that will start to form a second layer in the bin. I also saw some smaller shorter worms, but not as small as the first baby worm I saw.

March 23, 2014

I saw an extremely tiny baby worm and another small, thin worm. One of them had this yellow substance it was secreting which smelled horrible. I wonder if this is the substance worms secrete when they are afraid. (According to a page on composting in schools by the Cornell Waste Management Institute which is associated with Cornell University, the yellowish substance is coelomic fluid. It helps the worm keep itself wet and is also produced when the worm is scared. Worms need to be wet, so when one handles them with dry hands they are in a potentially dangerous situation.) I have been feeding the worms. Today, I put in the last pieces of watermelon and a tea bag. I also added a layer of shredded paper since the newspaper was getting pretty wet and packed down. The worms are now scattered throughout the newspaper. I also found some small brown creatures in the lid of my bin. They may be brown mites. (Fong & Hewitt, 1996; Christie, October, 11, 2008)

April 5, 2014

The first layer of vermicompost looks ready, or well on its way, and I have now added a second layer of shredded computer paper (donated from my work) and am burying food in it. In the last couple of days I have put in eggshells, carrots, bananas, and macaroni.
April 10, 2014

The bin has started to smell. Actually, it has been smelling for a couple of days now, at least. It is now very wet, so I left the lid off and put the fan on. I hope that it has not become anaerobic. I also did not see any worms crawling on the sides, but I did not want to dig into it too much for fear of the smell getting worse. I wonder if it might be the macaroni getting old. I also threw in some additional paper. I checked the bottom bin to see if there was any drainage, but I have never had any, and I know the holes are big enough because dirt gets through from the top bin into the bottom one. (Appelhof, 1997)

April 19, 2014

Today I changed the bedding of the bin. First, I took an old shower curtain and spread it out. Then, I took everything out of the bin and spread it in piles in the sun. I kept taking off the topmost parts of the piles to force the worms down to the bottom and center of the piles. (Worms don’t like light, so they migrate to the darkest section of the pile.) I also started pulling out worms as I saw them and overturning the piles to pull the worms from the bottom. I also took out a few of the eggs, but there were so many of them that I gave up because it would take too long. I found a number of extremely small worms, some still transparent, so I could see their insides. Some of the bigger worms had yellow tails. I put more shredded paper into the bin along with some food and the worms. I gave some of the vermicompost to Terri James who donated some organic waste at the beginning of the project. (Appelhof, 1997)

I found out today that worms can probably more than double their population size in three months (B. Christie, September 9, 2013).
References for Appendix A


Español (Spanish)

Una introducción a la organización (Please see the English translation below.)

Éste es un negocio social que quiere hacer equipo con unas mujeres guatemaltecas desfavorecidas. Producimos y vendemos el abono de lombrices, lo que es un alternativo orgánico a los fertilizantes químicos. Un negocio social tiene los fines de lucro, pero enfoque en proveer una solución a la pobreza, como los donativos y la caridad no pueden resolver suficientemente este problema. Este negocio da a las mujeres desfavorecidas las herramientas que necesitan para que puedan trabajar y aumentar los sueldos de sus familias. La educación forma un parte integral de nuestro programa. Ensañamos a las mujeres no solo como cuidar de las lombrices sino otros temas que las ayudarán operar el negocio. También, es muy importante que las mujeres que forman parte de este proyecto manden a sus hijas y sus hijos a la escuela para que puedan recibir la educación que necesitarán para obtener un buen trabajo más tarde.

Los desechos incluyen muchas cosas como la piel y los corazones de las frutas y los vegetales y las cáscaras de los huevos. Se pueden convertir estos en el abono orgánico. Hay varios métodos de hacerlo, pero este proyecto utiliza las lombrices. El abono será vendido para el uso en las granjas, en las plantas de interior y en los jardines.

Esto proyecto quiere alquilar o adquirir un poco de tierra en que se puede construir un centro, donde las lombrices, los recipientes, otros materiales y el abono serán guardados. Este edificio será construido de los neumáticos llenos de tierra, las botellas de refresco llenas de basura no-biodegradable y otra basura. Los productos no-biodegradables llevan mucho tiempo para descomponerse y contaminan la tierra. La basura también es, muchas veces, menos cara para adquirir que el concreto u otros materiales de construcción tradicional. Este proyecto utiliza
productos orgánicos y no-biodegradables para evitar que la basura contamine la tierra porque ésta puede convertirse en un peligro para la salud.

**English**

An introduction to the organization

This is a social business which wants to partner with disadvantaged Guatemalan women. We produce and sell vermicompost, which is an organic alternative to chemical fertilizers. A social business is a for-profit organization, but it focuses on providing one solution to poverty because donations and hand-outs cannot sufficiently resolve this problem. This business gives disadvantaged women the tools they need to work and increase their family’s income. Education forms an integral part of our program. We teach women not only how to take care of the worms, but also how to run the business. Also, it is very important that the women who are part of this project send their daughters and their sons to school so they can receive the education they will need to obtain a good job later on.

Waste includes many things such as the peels and cores of fruits and vegetables and eggshells. These can be converted into organic fertilizer. There are various methods of doing this, but this project uses worms. The fertilizer will be sold for use on farms, houseplants, and in gardens.

This project wants to rent or acquire some property on which it can build a center where the worms, containers, other materials, and fertilizer will be kept. This building will be constructed using tires filled with dirt, pop bottles filled with non-biodegradable waste, and other trash. Non-biodegradable products decompose slowly and contaminate the earth. Also, waste is often less expensive to acquire than concrete and other traditional construction materials. This

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30 Author’s translation of the Spanish text above
project utilizes organic and non-biodegradable products to avoid waste contaminating the earth because this can become a health hazard.
Appendix C

1. Yo guardaré un poco del dinero que gano para tener una reserva. Utilizaré este dinero para pagar para los gastos imprevistos, para pagar para los gastos de escuela para que mis hijas y mis hijos puedan continuar a ir a la escuela y para tener el dinero si no puedo trabajar cuando ya soy más vieja. También, específicamente, guardaré un poco de dinero para pagar para los gastos de escuela para mis hijas y mis hijos.

2. Yo mandaré a mis hijas y mis hijos con frecuencia a la escuela y participará en las sesiones de educación que tiene el proyecto. Si tengo la oportunidad, continuará con mi educación formal.

3. Yo no participaré ni daré el dinero a las actividades corruptas o criminales. Yo no dejaré que mis hijas o mis hijos participan o dan dinero a estas actividades. Yo no sobornaré a nadie ni dejaré que mis hijas o mis hijos sobornan a nadie.

4. Yo enseñaré a mis hijas y mis hijos la importancia de la higiene personal y ambiental, incluso la necesidad de reciclar los desechos.

5. No hablaré de otras personas de una manera que se hace que ellas se sientan humilladas. En mis opiniones, trataré de siempre ser constructiva.
Author biography

Stefanie Stoops was born in Crestline, Ohio. She grew up in Mansfield, Ohio, and was homeschooled, graduating in 2010. At Ashland University, Stefanie majored in French and Spanish and minored in International Business. She is a member of Alpha Lambda Delta, Omicron Delta Kappa, Phi Sigma Iota, and the Honors Program. Recently, she was selected to be a member of the Who’s Who Among College Students. She also received the Best Student in Two Languages award from the Department of Foreign Languages. Upon graduation, she plans to teach English abroad. She wants to work in missions in the Middle East and is interested in doing social and economic development work among impoverished women in the developing world.