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**Evaluating the Effectiveness of Interventions to
Promote the Education of Girls in Rural
Cambodia**

A Qualitative Approach

Master Thesis

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Abstract

The use of educational interventions to increase female educational attainment in developing countries has the potential to both provide women with more advantageous economic opportunities and contribute to economic growth. Achieving gender equality in education is an important first step towards achieving gender equality in the labor market. This thesis examines educational intervention programs that promote female education in rural Cambodia, and focuses in particular on conditional cash transfers. One such conditional cash transfer program in Cambodia is examined in more detail to determine its effectiveness. A qualitative evaluation was conducted in the form of focus groups and interviews with students, parents, and community members in the villages where the program was implemented. While the results of the study confirm the effectiveness of conditional cash transfers in increasing female attendance in school, the evaluation also revealed other factors that influence girls to stay in school. The study concluded that increasing the number of university-educated females in a girl's life through a mentoring program could have a positive effect on female educational attainment. Though further quantitative study is needed to investigate the effectiveness of such an intervention, this approach could be a useful supplement or alternative to conditional cash transfers.

Keywords

Cambodia, conditional cash transfers, economic development, education, gender equality, human capital, intervention programs

Range of thesis: 116,364 symbols including spaces; 53 pages excluding bibliography and appendices

Declaration of Authorship

1. The author hereby declares that she compiled this thesis independently, using only the listed resources and literature.
2. The author hereby declares that all the sources and literature used have been properly cited.
3. The author hereby declares that the thesis has not been used to obtain a different or the same degree.

Prague, 13.5.2016

Brittney Hrabik

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Master Thesis Proposal

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Proposed Topic:

Interventions to Promote Female Education in Rural Cambodia

Topic Characteristics:

Cambodia's economy has grown rapidly in recent years, with annual GDP growth rates averaging around 8 percent in the past decade (World Bank 2015). Despite the high growth rates, poverty levels remain high and concentrated in rural areas. In addition, Cambodia has some of the lowest education indicators in Asia. Cambodia's dropout rates are especially high, including approximately 8.6 percent of primary school students and 22.9 percent of lower secondary school students yearly (Cambodia Ministry of Education, Youth and Sports 2015). When looking at the disparity in enrollment numbers between males and females, those rates become even more concerning.

While gender equality can be argued for on moral grounds, it is also economically efficient and can help to promote economic growth (Barro & Lee 2010; Baptist 2010). This thesis will show the positive connection between improving gender equality in education and increasing economic growth, while addressing the research question of how educational organizations should best allocate limited resources in order to increase female educational attainment.

Qualitative research will be gathered on one type of educational incentive that has been proven successful in other countries – conditional cash transfers (CCTs). A case study will be completed with a non-profit organization, the Cambodian Arts and Scholarship Foundation, which has implemented a CCT program in several villages in Cambodia. An evaluation of this program will be conducted in order to gather more information on the various components and effectiveness of CCTs, as well as to look at both intended and unintended consequences of the program.

Working hypotheses:

1. Many children, especially females, in rural Cambodia do not attend school due to an underestimation of the benefits of receiving an education
2. Female drop out rates decrease when long-term, demand-side incentives are provided
3. Conditional cash transfers are an example of an effective educational intervention to induce females to complete their education, given the limited resources educational organizations in Cambodia hold

Methodology:

After examining the connection between gender equality in education and economic development, the specific educational policies and strategies used in Cambodia will be discussed. Individual level data will be collected in Cambodia in February 2016 with the Cambodian Arts and Scholarship Foundation. The sample size of the study will be approximately 125 people, including students, family members, education coordinators, teachers, community leaders, and alumni. The goal of the study is to identify factors that affect female education. The study will be held during a week of focus groups and one-on-one interviews.

Outline:

1. Introduction
2. The Effects of Economic Development on Inequality
3. Gender Equality and Development
4. The Importance of Education in Economic Development
5. Cambodian Education Systems and Policies
6. Potential Barriers to Education for Girls
7. Strategies for Improving Education in Cambodia
8. Research Design and Background of Case Study
9. Important Findings of Case Study
10. Future Research
11. Conclusion

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Introduction

Developing countries face a variety of complex challenges, as well as an insufficient amount of resources to adequately address many of the issues they encounter. One possible solution is to develop quality education programs that can help to stimulate inclusive growth in a wide range of development contexts. By providing children with more opportunities and creating a more educated labor force, increasing the average educational attainment of a nation can play an important role in both reducing poverty and contributing to economic growth. Due to the prevalence of gender inequality in developing countries, focusing particularly on educating females may hold great potential for economic advancement, while simultaneously decreasing the gender gap within schools and the labor market.

Nevertheless, there is a lack of robust evidence on best practices for educational organizations to motivate females to attend school. While there is a fair amount of literature surrounding various intervention programs to increase attendance, the educational organizations in developing countries often lack the funds to implement such large-scale and expensive endeavors. Given this general lack of funds, this work addresses the research question of how educational organizations should best allocate limited resources in order to increase female attendance in school. This thesis focuses exclusively on Cambodia, a case that helps to establish a comprehensive understanding of the complex and often competing interests of developing countries. In particular, research regarding existing educational intervention programs is explored, after which a case study and evaluation is conducted on one such small intervention program in Cambodia. The prior research coupled with the newly gathered information contributes to the identification of interventions that could be successful in keeping more girls in school, thus helping to alleviate the gender gap.

This thesis begins by arguing that policy makers, economists and other actors must rethink the way in which economic growth is linked to development. A review of traditional development views and concepts, along with an application of these concepts to Cambodia's economic development, shows the need for growth that is more inclusive of currently ignored groups. This work in particular argues for the inclusion of women in economic growth by demonstrating how focusing on women in rural areas

may bring about the highest return to development spending. Cambodia, in part due to pressure from international organizations, is increasingly developing and modifying governmental policies to be more inclusive of women. However, while this creates room for women in the labor market, there is a lack of educated women qualified to hold these positions. Despite the multitude of research showing the importance of education in economic growth, Cambodia has not been successful in keeping girls in school, which thereby contributes to the present gender and income inequality.

Girls wishing to receive an education in Cambodia face any number of barriers, which may be financial, social, or even informational in nature. Educational organizations often attempt to increase a girl's educational attainment by implementing interventions that they believe will help to eliminate these barriers. However, due to the amount of overwhelming and, in certain cases, irrelevant information regarding the various barriers females face, many organizations are using their funds to implement interventions that have been previously shown to be ineffective and inefficient.

To accurately understand the relevant barriers to education in Cambodia, an evaluation of a nongovernmental organization (NGO), which distributes conditional cash transfer (CCTs) was conducted. As will later be discussed, CCTs have consistently proven to be significant in increasing attendance in school, a statement with which the findings of this thesis are in accordance. However, the qualitative research collected from this evaluation allowed for a more extensive study into the most effective components of such programs. This study gathered the various perceptions of local stakeholders regarding the educational barriers which girls face, which was essential to understanding the effects of the intervention on the community as a whole.

The results of the evaluation showed that local communities in Cambodia identified financial reasons as the sole barrier to education for girls. However, the main consideration taken into account when deciding to attend school did not seem to be the general financial costs of education, but rather the opportunity cost. A large amount of girls drop out of school because they would rather earn wages than pay for schooling. In this regard, CCTs were found to be a suitable intervention to the extent that they offset the opportunity cost of attending school. However, the lack of information regarding

returns to education together with the influx of young, working women in communities has created a situation in which girls tend to undervalue education, thus influencing them to leave school once they are able to work.

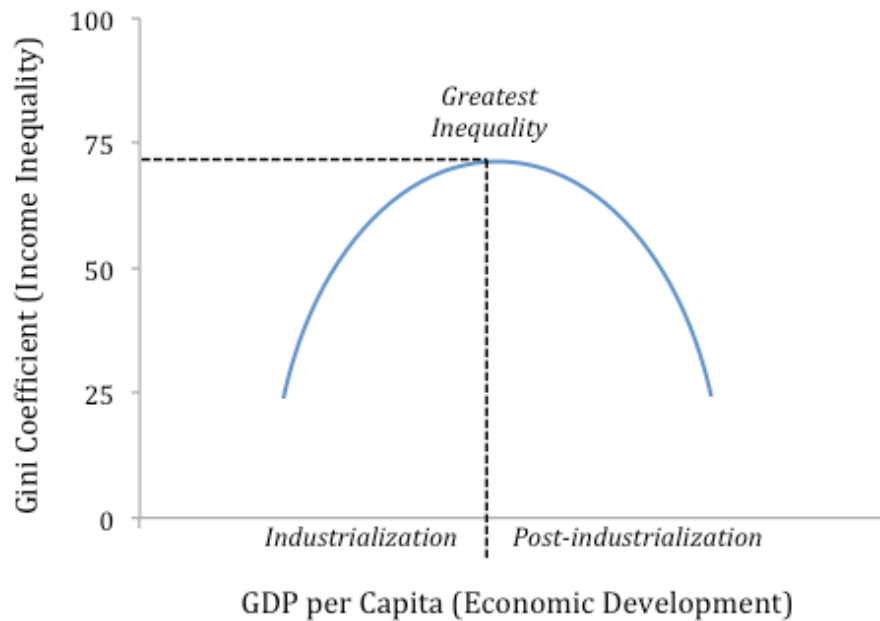
This research leads to the formulation of two possible intervention programs. The first intervention involves providing female students with female university graduate mentors throughout lower secondary school, the time at which many young women begin to work. The main goal of this intervention is to provide students with a positive influence, which can demonstrate the benefits of completing secondary school and attending university. The second intervention is comprised of career counseling sessions for females, either individually or in groups. While this intervention also aims to increase the value associated with education, it does so by providing females with a qualified mentor with whom they could build trust over time in order to better understand career options that are not always evident given the isolation of many villages. Both suggestions are made with the intention of identifying effective, low-cost strategies for promoting female educational attainment in order to assist educational organizations in making informed decisions regarding which type of programs to implement.

Chapter 1: The Effects of Economic Development on Inequality

1.1 Traditional Views on Economic Development and Inequality

Gender inequality and income disparity have been historically tolerated in developing countries due to traditional views of development. The Kuznets curve is one of the most historically accepted hypotheses regarding the connection between economic development and economic inequality. Kuznets (1955) believed that income inequality would rise as countries grew economically, but then later fall after industrialization took place. This theory is based on the assumption that governments are more capable of supporting redistribution as they grow. The Kuznets curve, shown below, compares a national growth measure, such as Gross Domestic Product (GDP) per capita, with inequality, generally measured by the Gini coefficient. The Gini coefficient is the most common measure of inequality, where the number 100 signifies perfect inequality and 0 signifies no inequality.

Figure 1: Kuznets Curve



Adapted from: Kuznets, S., 1955. Economic Growth and Income Inequality. *The American Economic Review*. 45 (1), pp. 2-28.

The Kuznets curve has been supported by cases such as Great Britain, where the Gini coefficient was 40 in the 1820s, rose to 62.7 in the 1870s, and then fell back to 44.3 in the early 1900s (Williamson 1985). The belief is that the industrialization and shift from agriculture created a higher inequality gap, but as some rural citizens migrated to the city and the state gained more wealth, redistribution occurred and inequality was reduced.

Based on the acceptance of the Kuznets curve, many developing countries implemented economic growth policies based on the trickle down effect, assuming that economic prosperity would eventually trickle down to all citizens. This theory of development can clearly be seen in the Washington Consensus policies. The United States, the World Bank, and the International Monetary Fund created this set of ten policies, established in 1989, in order to guide developing nations towards achieving economic growth. These policies encompass areas such as privatization, property rights, deregulation, and tax reform (Fischer 2011). However, because economic inequality was seen as only a temporary byproduct of industrialization, reducing inequality was not a priority of the Washington Consensus.

1.2 Cambodian Economic Policies and Increasing Inequality

While the Kuznets curve may have explained the course of income inequality in a number of developed countries, it has not shown consistent results in developing countries. Cambodia, for example, has followed the framework provided in the Washington Consensus since the late 1990s and yet income inequality still appears to be rising (Muqtada & Ung 2013).

According to the United Nations Development Programme (Programme 2013), Cambodia had one of the world's fastest growing economies and is doing much better, in this regard, than any other post-conflict country. In the last decade, Cambodia has experienced continuous rapid economic growth. The real GDP growth rates, as calculated by the World Bank (2015), were 7.1 percent and 7.5 percent in 2014 and 2013 respectively. Other developing countries averaged only around 5.1 percent.

However, while Cambodia's GDP per capita increased by 15 percent between 2011 and 2013, from USD 878.40 to USD 1006.80, inequality has also been on the rise. According to the World Bank (2015), Cambodia had a Gini coefficient of 31.8 percent in 2011 and inequality rose to have a Gini coefficient of 36.0 percent in 2013. The extent of inequality can better be seen in Cambodia's Human Development Index (HDI) adjusted for inequality. A country's HDI attempts to measure living a long and healthy life, having a decent standard of living, and having access to necessary resources (Noorbakhsh 1998). As reported by the United Nations Development Programme (2013, p. 2):

“Cambodia’s 0.543 HDI value for 2012 discounted for inequality falls to 0.402, an average loss of 25.9 percent due to inequality in the distribution of the dimension indices; this is regarded among the highest losses in the 2012 HDI in East Asia and the Pacific region. This appalling average loss due to inequality is shared between loss due to inequality in life expectancy at birth (28.8%), education (28.3%) and income (20.3%). Cambodia’s overall loss is 4.6 and 1.7 percentage points above the average losses due to inequalities for East Asia and the Pacific (21.3%) and Medium HDI countries (24.2%) respectively.”

According to the Kuznets curve, income inequality should at some point begin to decrease now that Cambodia has become more industrialized. However, it seems that income inequality is currently not decreasing or even stabilizing. While it could be argued that Cambodia might still be on the rising side of the Kuznets curve, governing bodies may need to begin considering that income inequality will not be so easily eliminated as once thought. In fact, Thailand and Vietnam, two countries that border Cambodia and are considered more developed, have even higher Gini coefficients than Cambodia. Below, Table 1 shows Thailand has the slowest annual GDP growth rate and highest GNI per capita of the three countries. Subsequently, Thailand also has the highest income inequality.

Table 1: Southeast Asia Indicators

	Cambodia	Thailand	Vietnam
GDP annual growth (2014)	7.5%	.9%	6.0%
GNI per capita (2014)	USD 3,080	USD 14,870	USD 5,350
Gini coefficient (2012)	30.8	39.3	38.7

Source: World Bank, 2015. *World Data Bank: Southeast Asia*.

Economic development policies should more actively consider inequality reduction in order to ensure that growing income inequality in developing countries is halted and hopefully reduced. While traditional policies do indeed appear to be supporting strong economic growth in Cambodia, there are no indications that income inequality will decrease any time soon. In order for Cambodia's development to be inclusive, the nation's most disadvantaged groups need to be considered and included in development.

1.3 Inclusive Growth for Excluded Groups

The current non-inclusive growth in Cambodia is excluding several groups from sharing in the benefits of the economic advancements made in the last three decades. There are two major social divides in Cambodia regarding income inequality. The first is between rural and urban areas. As Kuznets recognized, income inequality generally rises due to individuals moving to and working in the city, where they earn increasingly more than

those in rural areas. However, as of 2015, 80 percent of Cambodia’s 15.5 million citizens lived in rural areas and benefited little from Cambodia’s large economic growth (World Bank 2015). The second major divide in income, and the main focus here, can be seen between males and females. Women, as shown in Table 2 below, are receiving much lower salaries than their male counterparts.

Table 2: Average Monthly Salaries 2009 (riels)

Occupation	Male	Female	Wage Gap
Legislators, senior officials, and managers	329,980	233,910	29.1%
Professionals	553,589	406,659	26.5%
Technicians and associate professionals	767,718	491,017	36.0%
Clerks	610,702	560,862	8.2%
Service workers and shop and market sales workers	356,925	282,616	20.8%
Skilled agriculture and fishery workers	226,052	213,214	5.7%
Craft and related trade workers	384,987	285,315	25.9%
Plant and machine operators and assemblers	458,427	266,302	41.9%
Elementary occupations	267,932	182,770	31.8%
Armed forces	432,065	432,465	-0.1%

Source: International Labour Organisation, 2012. *Decent Work Country Profile: Cambodia*. Phnom Penh: International Labour Organisation. Table 3.1.

The economic divide between those living in rural and urban areas, as well as the income inequality between males and females highlights the need for more inclusive growth policies. In response to growing criticism of development strategies based solely on economic growth, the term “inclusive growth” was coined in recent years. According to the World Bank, inclusive growth encompasses development policies that take both poverty reduction and distribution into account (Ianchovichina & Lundstrom 2009). Because inclusive growth strategies are inherently more complex, there is no solid framework to guide policy. However, some organizations such as the Asian Development Bank have incorporated inclusive growth into their policies by defining their key issue as creating sustainable employment opportunities and making such

opportunities accessible to all, whether urban or rurally located and without gender discrimination (Ali & Zhuang 2007). These types of policies of such international organizations will obligate the countries they work with, including Cambodia, to pursue more inclusive policies in order to obtain development funding.

Gender equality in particular has been promoted as a component of inclusive growth policies in recent years. Most recently, it has been included in the 2015 Millennium Development Goals. Of the eight UN Millennium Development Goals created in 2000, the third goal focuses entirely on improving gender equality. However, the UN report on the success of the goals states that although there have been some successes in decreasing the disparity, gender inequality persists (United Nations 2015a). Thus, the successor of the Millennium Development Goals, the 2030 Sustainable Development Goals, also includes a similar goal: “achieve gender equality and empower all women and girls” (United Nations 2015b, p. 18). This goal aims to end discrimination against women and girls and increase the number of women holding decision-making positions regarding policy and the economy. While this recent concern with promoting equal opportunities for all in development is promising, the matter of how to best support and include women in economic growth is still unclear.

Chapter 2: Gender Equality and Development

2.1 Empowering Women and Efficient Economic Growth

Until now, this work has focused on the need for the active inclusion of women in development policies based solely on the idea that income inequality is undesirable. However, supporting women in education and the labor market could even contribute to economic growth, contrary to what traditional development models assume.

While gender equality has been historically argued for mainly upon moral grounds, more recently it has been classified as simply ‘smart economics.’ Gender equality and the empowerment of women grew as an economic concern when the World Bank (1994) publication *Enhancing Women’s Participation in Economic Development* reported that it helps to increase the speed of development. The publication noted that women in developing countries produce around half of all food in the world and often have the

responsibility of ensuring household food security, while also caring for other relatives and doing household chores that may include cooking meals, fetching water, and house maintenance. However, because these women have little access to economic opportunities, their productivity remains low. The World Bank suggested that development strategies should invest more in women than in men in order to obtain higher returns on productivity. Creating opportunities for women gives women control over the money they earn, which in turn may be more efficient in speeding development, as women are more likely to put their money towards their household and children than men.

Indeed, a comprehensive study supported by the United Kingdom's Department for International Development (Kabeer 2012, p. 3) concluded "there is strong evidence that gender equality can promote economic growth. Increasing access to employment and education opportunities for women reduces the likelihood of household poverty, and resources in women's hands have a range of positive outcomes for human capital and capabilities within the household." Furthermore, increased wages can expand a woman's bargaining power in her own household (Klasen & Lamanna 2009). This bargaining can include increased saving and investing more in children's education and health, which in turn increases both human capital and economic growth. One study used data to show the effects of intra-household resource allocation on household health depending on which parent controls the income. The study found results similar to those already mentioned, that resources controlled by a mother have a much higher effect on a family's health than that of the father's income. A child's survival rate is indeed almost 20 times greater, and fertility rates go down with that increasing income (Thomas 1990).

Moreover, the benefits of gender equality and providing more opportunities for women do not end within their households. In fact, while education is certainly a path for a woman to find better opportunities and earn higher wages, reaching gender equality in the labor market may actually be good for economic growth. The costs of a gender gap in employment have been found to have a greater negative effect on economic growth than gender gaps in education. The rationale is simple: as women gain more opportunities and face less discrimination, competition is likely to increase in the labor

market. Competition in the labor market will lead to a higher quality of labor by giving employers more talent to draw from. A quality labor market is more productive, which in turn creates higher rates of return that can be used to make more investments. This cycle has the potential to promote greater economic growth for the entire nation, while at the same time being more inclusive of formerly excluded groups (Baptist et al. 2010).

Including women more actively in development policy, as seen above, can certainly be argued for on grounds of efficiency. Moreover, the disparity in the ratio of men to women shows the effects of previous policies and the seriousness of the situation. Amartya Sen (1990) famously said that 100 million women are missing from the world. While the number of women substantially outweighs that of men in developed countries, in Southeast Asia there is an estimated shortfall of around 2.4 million women (Dreze & Sen 1995). This is most likely to have occurred through discrimination that has resulted in inadequate nutrition and sex-selective abortion. The estimate becomes particularly troubling when noting that in places where women and men are more equally treated, women generally live longer than men. While efficiency makes an economic case for gender equality, these missing women show why gender equality and women's empowerment are urgent issues in development.

2.2 The Path towards Gender Equality in Cambodia's Labor Market

Though traditional views of development may have slowed the economic progress of women compared to men, the moral and efficiency arguments for more gender inclusive policies have compelled Cambodia to create more attainable opportunities for women in the labor market. The types of opportunities available for women in the labor market have important ramifications even for young girls. Without a likely prospect of finding a decent job upon graduation, girls have an additional reason to drop out of school at an early age. Thus, the following section will give a brief overview of the recent successes and the current barriers for women in the Cambodian labor market.

Most importantly, the most recent Cambodian constitution promotes equality and states that all forms of discrimination against women shall be abolished and women and men shall have equal rights (Kingdom of Cambodia 1993). However, as seen in the previous chapter, the wage gap between men and women is still quite large and the employment

gap shows the same bias. According to the International Labour Organisation (2015a), the employment-population ratio for 2013 was 89 percent for males and over 10 percentage points lower for females at 78 percent. The share of paid employment in non-agricultural work shows an even higher disparity with a male percentage of 75 percent and a female percentage of 54 percent. While these numbers show the prevalence of gender inequality, there are several clear signs that Cambodia is moving towards policies that will create more decent work for women.

One of the biggest advancements for women in Cambodia has occurred in the creation of the Ministry of Women's Affairs (MOWA) in the late 1990s. Along with combating violence against women and providing health solutions, the Cambodia MOWA (2009) is especially concerned with women in the labor market. While they note that much discrimination occurs due to traditional views on gender roles, they also found evidence of a significant wage gap between women who have received secondary education and women with a university degree, suggesting the need for more university-educated women in the labor market. The specific need for women in the executive and judicial branch is noted. Consequently, already the Cambodia Ministry of Justice (2009) has created the Gender Mainstreaming Action Plan, which acknowledges the barriers women face towards entering the justice sector, and aims to research and alleviate these barriers. However, it remains unclear to what extent the Ministry of Justice plans to support women in its employment policies.

Other Cambodian ministries are also working towards creating hiring policies that require an equal number of men and women to be brought on for various prospects, though this is usually at the request of partnering international firms. The Ministry of Public Works and Transport, for example, has partnered with the Asian Development Bank to create new roads that will run through villages and hopefully increase the traffic to and from cities where work can be more easily found. The partnership demands that employment will be "gender-representative," where 50% of the road maintenance workers will be women and all staff will be trained on gender awareness and road safety (Kingdom of Cambodia & Asian Development Bank 2015). While this policy is indeed commendable, gender-representative policies for opportunities such as

these that lack educational requirements might also be pulling some women away from school and ultimately confining them to earning lower salaries.

Indeed, one of the most attractive industries for young women in Cambodia is the garment industry. Cambodia's garment industry is a large employer of women and obtains its comparative advantage through cheap and abundant female labor. However, these low wages are not rising a great deal, in large part due to protectionism of the garment industries in both the United States and Europe (Jaggar 2005). The role of an abundant supply of work available in the garment industry most assuredly also play a role in the education of young woman, many of whom decide to work in these factories instead of attending school. Though the conditions of these factories are often unsafe and the wages are low, many young women find the opportunity of earning money at an early age desirable and can only find work in these industries with limited to no educational requirements (International Labour Organisation 2015b). While this type of labor may build Cambodia's GDP in the short run, the situation may very well contribute to a lack of educated women to compete for jobs with higher educational attainment requirements, and thus higher salaries.

While there are many challenges for women in finding decent work in Cambodia, policies are slowly becoming more inclusive of women. Though the majority of work available to women seems to currently be in jobs that require little education, Cambodia is showing signs of trying to improve the gender gap in higher-level jobs. However, with the large amount of jobs pulling young women out of school at an early age, the amount of educated women available to fill the opening opportunities in prominent and high-level positions is modest.

Chapter 3: The Importance of Education in Economic Development

3.1 Investing in Human Capital via Education

For women to become viable contenders in a labor market predominantly controlled by men, a considerable investment will need to be made in women. This kind of investment in the skills and knowledge of individuals, or human capital, can also be a driver of economic development and assist in creating decent opportunities for women.

Especially in developing countries, the amount of poverty in a nation has in the past been associated with a lack of physical capital. However, it is often accepted today that human capital plays an essential role in lifting individuals out of poverty.

The basic economic theory behind human capital is that these investments, whether schooling, medical care, or training, will increase a worker's productivity. The increased productivity will then increase profits. Thus, firms are willing to pay higher salaries for more educated employees (Becker 1975). Some of the earliest extensive literature on human capital provides a general analysis of this type of investment. Gary Becker (1962) used empirical studies to show that various types of investments in human capital raise the net earnings of individuals as they age. The net earnings, consequently, are lower at earlier ages due to the costs of investment being incurred at this time. This study has laid the groundwork for further analysis on the effects of human capital and the various types of human capital.

Investing in human capital by means of education is hardly a new concept. Many studies exist that document the individual returns to investment in education. George Psacharopoulos (1994) completed one of the most comprehensive analyses by both summarizing global patterns and characterizing the returns. The study used earnings as a proxy for rate of return. Though controversial, this method has been widely used and shown to provide consistent data and is therefore considered one of the most effective measures. This particular study reached some important conclusions for policy consideration. First, primary education yields the highest returns in developing countries. In Asia, for example, the returns to investment in primary education were 19.9 percent, followed by 13.3 percent in secondary school, and 11.7 percent in higher education. Second, it was found that academic secondary schools provide a better return on investment than vocational tracks. Overall, the returns were 15.5 percent for general schools and 10.6 percent for vocational schools. This is due to the fact that vocational schools generally train individuals for professions that often earn lower salaries.

However, the prior study only used years of education to compare rates of return. One of the largest criticisms of this is the issue of quality versus quantity, and how much of

an effect the quality of education has. Several attempts have been made to quantify quality, such as a study by Card and Kruger (1992) who used student-teacher ratio and teacher pay as a measurement of quality education. The results showed that states with higher quality indices also showed higher returns to education. Also important, the study found that if children were educated, the income of the child's parents had no effect on the future income or education of the child. These results are decidedly positive for education intervention programs where poverty is prevalent.

Both quantity and quality have an effect on an individual's return on investment. The higher return on investment translates into higher wages, which in turn furthers economic development. While there are many studies on the effects of education on economic development, Barro and Lee (2010) have perhaps conducted the most in depth study. Using a dataset of educational indicators from over 146 countries that span fifty years, their study shows that schooling has a significant positive impact on the income level of countries. In fact, the study found that if all else were held constant, the impact for each additional year of schooling would increase world GDP by two percent.

3.2 Gender Inequality in Education and Development

The research supporting education as a necessary step in achieving economic development is robust and solid. There is, however, less research on the effects of gender inequality within education and its effects on economic development. Although the research conducted on the effects of gender inequality in education on economic growth has not been extensive, the results are consistent. For example, one study using cross-country data regressions found that GDP could have increased by 0.9 percent faster per year in South Asia, had the gender inequality in education been remedied in the 1960s (Klasen 1999). This occurs primarily due to a reduction in the level of human capital. In addition, when women are not able to attain higher wages, there is an entire group that is not able to invest in the country. Finally, when women instead stay at home or earn lower wages, they are more likely to have more children, increasing the population. This was confirmed by other studies which found that education also increases women's "health, fertility, mortality, and their overall economic opportunities" (Asian Development Bank 2013).

Another study (Grown et al. 2003) compared sixteen different experiments to look at the relationship between female education and “indicators of women’s power,” mostly through self-reporting surveys. These indicators included mobility, domestic work time allocation, and autonomy. While the effect on most of the indicators was inconclusive, consistent evidence was found that female education leads to increased mobility. Increased mobility, especially in developing countries, is highly important in increasing opportunities, as much of the decent work is located in towns and cities. All of these studies show the impact that education can have on the opportunities available for women, which in turn affects the entire economy.

Chapter 4: Cambodian Education System and Policies

4.1 Current Cambodian Education

Cambodia’s system of education is arranged by the organizational structure of the state. Cambodia consists of 24 provinces, which are subdivided into districts, which are then subdivided into communes. Each commune is composed of numerous villages. Currently, there are 24 provincial education offices and 193 district education offices throughout the various communes. The modern Cambodian education structure generally consists of six years of primary school, three years of lower secondary school, and three years of upper secondary school. Primary school and lower secondary school, generally called basic education, are technically compulsory, though this is generally not enforced. Upper secondary school, grades 10 – 12, is not compulsory. At the end of grade 12, students who are able to pass the national exam receive their high school diploma. Higher education then generally lasts two years for an associate degree or four years for a bachelor's degree (UNESCO 2010).

The National Curriculum states that primary school students should receive classes for about 16.5 hours per week and lower secondary school students should receive 25 hours of classes each week. Upper secondary school students receive only two more classes per week, which totals to around 26.5 hours of schooling weekly. In addition, children are expected to attend an additional 2-5 classes per week for a Local Life Skills Programme (LLSP), where students participate in extra-curricular activities and learn interpersonal skills. Overall, the basic education, consisting of primary and lower

secondary school, is intended to ensure that all students understand the Khmer language and math, develop life skills, understand basic scientific principles, and become communicative in a foreign language. The upper secondary education aims to deepen students' knowledge of these subjects (UNESCO 2010).

Looking at education from a broader perspective, the Kingdom of Cambodia has stated their goal of becoming a middle income country by 2030 and a developed country by 2050, and thus has created a Strategic Evaluation Plan (Cambodia Ministry of Education Youth, and Sport 2014) for the years of 2014-2018 to help succeed in this aim. The education policies of the Cambodian Ministry of Education, Youth and Sport (MoEYS) include such overarching goals as ensuring equal access to education and providing quality learning. The greater part of the plan seems to be devoted to a series of ambiguous programs to be put into effect, including scholarship, quality assurance and technical and vocation education programs, though very little information is given on the implementation strategy of such plans.

4.2 Gender Inequality in Education in Cambodia

While Cambodia's history has undoubtedly had some effect on the structure of education (see Appendix A), the focus of this section will examine the current state of education. As mentioned before, the majority of those living in poverty tend to live in rural areas. Indeed, out of the 11,865 schools in Cambodia, 10,491 are considered rural. As expected, a large disparity can be seen in the consistent higher dropout rates among rural schools. As shown in Table 3, the dropout rate is on average 5.8 percentage points higher in rural areas. The disparity peaks in eighth grade where the rural dropout rate is 13.1 percentage points higher than its urban counterpart.

The gender gap in dropout rate is not what one would initially expect. As table 3 confirms, female dropout rates are very high, though consistently lower than male dropout rates. Though the female dropout rate on average is only 2.24 percentage points lower than the male dropout rate, the numbers do show that girls are more likely to stay in school than boys if initially enrolled.

Table 3: Dropout Rates

Urban versus Rural Dropout Rates 2013/2014												
Grade	1	2	3	4	5	6	7	8	9	10	11	12
Urban	6.7%	3.8%	6.0%	5.8%	6.8%	8.0%	16.6%	9.4%	16.8%	11.4%	3.5%	49.8%
Rural	4.3%	7.3%	8.7%	10.5%	11.7%	8.9%	23.0%	22.5%	23.1%	19.8%	16.2%	58.6%
Rural Female versus Male Dropout Rates 2013/2014												
Female	6.3%	6.6%	7.3%	8.6%	9.7%	8.1%	22.3%	22.6%	21.8%	19.3%	15.5%	54.8%
Male	7.0%	8.0%	10.0%	12.2%	13.6%	9.7%	23.7%	22.5%	24.3%	20.3%	16.7%	61.8%

Source: Cambodia Ministry of Education, Youth and Sport, 2014. *Education Statistics & Indicators*. Phnom Penh: Kingdom of Cambodia.

However, looking at dropout rates alone does not give a comprehensive picture of the situation. When looking at the enrollment rates by number of students in Table 4, it can be seen that over 20,000 less girls than boys entered primary school in 2013. This means that the first grade held 11 percent more boys than girls, a much larger number than the .07 percentage points between the dropout rates of girls and boys in the same grade. However, as boys continue to drop out at a quicker rate than girls, the deficit of female students levels around grade seven and the numbers of enrolled students are similar. Unfortunately, this rough equality lasts only one year before the dropout rate of girls increases almost to the point of that of the boys'. Over the course of upper secondary school, the high number of dropouts leaves the number of girls in grade 12 at 16 percent less than the number of boys.

Table 4: Enrollment by Gender

		Rural Enrollment 2013/2014					
		Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
Primary School	Female	164,480	147,257	141,280	136,841	129,343	119,301
	Male	184,790	163,352	155,025	147,293	136,280	122,752
	Total	349,270	310,609	296,305	284,134	265,623	242,053
	Female Deficit	-20,310	-16,095	-13,745	-10,452	-6,937	-3,451
		-11.0%	-9.9%	-8.9%	-7.1%	-5.1%	-2.8%
		Grade 7	Grade 8	Grade 9	Grade 10	Grade 11	Grade 12
Secondary School	Female	89,768	70,231	51,295	32,195	25,674	23,755
	Male	88,866	69,275	53,059	33,862	28,605	28,346
	Total	178,634	139,506	104,354	66,057	54,279	52,101
	Female Deficit	902	956	-1,764	-1,667	-2,931	-4,591
		1.0%	1.4%	-3.3%	-4.9%	-10.2%	-16.2%

Source: Cambodia Ministry of Education, Youth and Sport, 2014. *Education Statistics & Indicators*. Phnom Penh: Kingdom of Cambodia.

The information gained from these numbers highlights two key grades that may be best for educational interventions. First, while boys do have higher dropout rates, the number of girls graduating secondary school is still much less than boys. The high intake of boys compared to girls in primary school may suggest that many girls never even begin attending school, even though it is technically mandatory. This may indicate that education interventions for girls would be most effective beginning even at the very start of primary school.

The second area can be seen between primary school and lower secondary school, or between grades 6 and 7. The dropout rate for girls increases from 8.1 percent in grade 6 to 22.3 percent in grade 7 and the rate stays consistently high throughout lower secondary school. This could in part be due to the fact that the girls are entering the age where they are able to work and therefore the opportunity cost of going to school becomes higher. These opportunity costs will be discussed further in the next section.

Chapter 5: Potential Barriers to Education for Girls

5.1 Financial Costs and Barriers

From the previous section, it is evident that females frequently decide to drop out of school, while some never enroll at all. As a result, the absolute number of secondary school graduate females is notably less than that of males. To correct this issue and create higher graduation and enrollment rates for females, the barriers and costs of education must be understood, and ultimately eliminated.

While education is technically free in Cambodia, there are almost always still additional costs in attending school. Perhaps the largest cost of education for parents is the extra classes that students must pay for, sometimes referred to as 'private classes' or 'tutoring.' Though students are able to attend regular classes free of charge, they must often partake in extra classes in order to adequately master the curriculum. Children are then charged per session for these extra classes. Legally, teachers are not allowed to withhold curriculum necessary for tests during their normal, or free, classes. However, some teachers do not adhere to this standard and offer this valuable information only during extra classes, adding an extra cost for students and their parents (Dawson 2011). It would be simple to see this practice as a corrupt way for teachers to exploit students for their own economic gain. However, the reality is that supplementary education is not unusual in developing countries around the world, and as such, it is not surprising that paid extra classes often makes up a large part of the Cambodian education system. In fact, most teachers in Cambodia would be living below the poverty line if they only relied on their teaching salary.

In part due to the low salaries of teachers, free classes only cover a portion of the required national curriculum. While the costs of extra classes tend to vary, one study conducted on extra classes looked at a single district in Cambodia and found that one session of tutoring costs 1000 riels (USD 0.25) at the highest and 500 riels (USD 0.13) at the lowest. The study also found that students who attended the tutoring regularly received higher grades by approximately 11 percentage points. It was noted that one Municipal Department of Education even started to regulate these transfers and allows them as long as it is no more than 500 riels per student. As expected, focus groups

showed that the main barrier that prevented children from these groups was the cost (Brehm & Silova 2014).

This financial burden falls on the families of those in school, in great part because there are not many other actors contributing to the financial costs of education. Indeed, households tend to be the largest contributor to education programs. The average amount parents paid for general fees alone were around 2500 riels per student in 1999, with the lowest being 300 and the highest being 4550 riels. These various education expenses, shown in Table 5, often account for 10 – 19 percent of an average families total income (Bray 1999).

Table 5: Household Annual Education Expenditures, Svay Rieng 1997 (riels)

	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
School Contribution	1,500	1,500	1,500	1,500	1,500	1,500
Registers, etc.	300	300	300	300	300	300
School Maintenance	400	400	400	400	400	400
Uniform	15,000	15,000	15,000	30,000	35,000	40,000
Other School Equipment	6,400	6,400	6,400	11,500	11,500	11,500
Private Tutoring	0	0	0	40,000	40,000	40,000
Transportation	140,000	140,000	140,000	140,000	140,000	140,000
Pocket Money	70,000	70,000	70,000	70,000	112,000	112,000
Accessories, Stationary	6,300	7,900	9,900	9,900	12,000	12,000
Personal Gift to Teacher	1,500	1,500	1,500	1,500	1,500	1,500
<i>Total</i>	<i>241,400</i>	<i>243,000</i>	<i>245,000</i>	<i>305,100</i>	<i>354,200</i>	<i>359,200</i>

Source: International Institute for Educational Planning, 1997. *The private cost of public schooling: household and community financing of primary education in Cambodia*. Table 15.

In addition to these direct financial costs, there are also opportunity costs to attending school. Because children generally earn more as they age, the opportunity cost of attending school becomes greater and greater. A major question and often a deciding factor in whether children will attend school is what they are giving up by going to school. Though it would be extremely difficult to get accurate figures for opportunity costs, one study showed that boys might be able to work earning 3000 riels (USD 1 per day) for 15 weeks a year, 5 days a week, which would be around USD 75 a year. Girls, on the other hand, could be hired to harvest rice, which would be around USD 47 twice a

year (Bray 1999). And as earlier mentioned, the growing garment industry also creates more jobs that often pull girls away from school for full-time work.

When education interventions are considered, organizers must remember that on top of the financial costs, individuals living in poverty have been shown to be more risk averse (Fehr & Haushofer 2014). Poverty often affects individuals' psychological states. By lowering an individual's willingness to take risks, poverty creates a state where individuals are less likely to give up income for education in return for higher future returns. Without credit markets and insurance, those living in poverty are extremely vulnerable to various shocks, especially health and crop-related.

5.2 Social Costs and Other Barriers

While all students bear the burden of financial costs, female students face more barriers in the form of social costs. According to a study done by the Asian Development Bank (2013), women in Cambodia fall behind men in education for cultural reasons. The woman's traditional role in the house plays a major role. Women are expected to do housework and raise children. This idea that women are better suited to domestic work plays a large role in opportunity costs and women often do not attend school to stay home and take care of children and complete household chores (Bray 1999).

While some social costs are short-term in nature, others are more long-term, such as marriage. In many cultures, it is normal and even desirable for a man to earn more than his wife. In the United States, couples were studied over time and the results showed that women who earned higher income had difficulty in finding partners and in keeping their marriages (Bertrand et al. 2015). In fact, if a woman did earn more than her husband, the study found that this situation tended to last only for two years. While it is desirable for economic development that women earn higher salaries and contribute more to economic development, women who earn higher amounts are sometimes not as culturally accepted.

On the other hand, a study conducted relating to bride prices shows the opposite effect. The bride price is the lump sum that a groom must pay to the family of his bride (Bau et al. 2015). This custom, which also occurs in Cambodia, was found to have some

consequences regarding girls' education. It was found that cultures that practice the custom of paying a bride price associate higher education with a higher bride price. Therefore, this custom may be an incentive for girls in Cambodia to attend school. So while there have been studies showing that in some countries female attainment lowers the chance of finding a suitable husband, it is unclear whether this is the case in Cambodia due to the tradition of paying a bride price.

While the barriers that females face in education can be both financial and social in nature, it is also necessary to briefly mention the information barriers that are encountered. In Cambodia, a country where 80 percent of the population lives rurally, living in poverty can translate to living in isolation. Without electricity or the means to easily communicate with those outside of the village, knowledge of the benefits of education and the opportunities it provides remains limited and does not easily spread.

Chapter 6: Strategies for Improving Education in Cambodia

6.1 Why NGOs are needed in Education Development

In order to advance the process of breaking down financial and social barriers, various educational interventions can be applied. However, households often do not have the resources or coordination capabilities to implement such interventions. Perhaps the government should take the lead in creating interventions in order to promote positive school outcomes for girls. Nevertheless, in rural Cambodia, it seems that non-governmental organizations (NGO) might be best suited to taking up this task.

While the Cambodian government has implemented an “education for all” policy, it does not seem to be able to enforce such a policy. This can be seen in the high dropout rates, previously discussed, for the technically mandatory education from grade 1 until grade 9. Furthermore, the lack of resources the Cambodian government has to allocate towards school can be seen in the extremely low wages given to teachers. These low wages undermine the free education for all policy by creating conditions where teachers must ask for fees from their students. In fact, one comprehensive study completed in 1997 and 1998 surveyed 77 schools across Cambodia and found that the main way in which the government contributes to education is by providing salaries for teachers,

approximately USD 6.48 per student yearly (Bray 1999). In regards to other income that the government provided to schools in the forms of administration, training and supplies, the total government expenditure per child yearly came out to around USD 3.20 per student per year in 1997 kingdom-wide. However, in addition to the government expenditures, politicians spent around USD 8 per child in 1997 in building schools. The expenditures are calculated separately from the government, as the politicians donated their own money and in general the school was then named after the donating politician, primarily Prime Minister Hun Sen.

Despite the efforts made, these government expenditures are quite low, especially given the costs that households must pay shown in the previous section. While this study was conducted in the late 1990s, the amount of government expenditures remains low today. In 2014, two percent of the national GDP was spent on education (Cambodia Ministry of Education Youth And Sports 2014). While this is an increase from previous years, it is still nowhere near the rates of between five and eight percent of GDP spent on education in most developed countries (World Bank 2016).

With the government's limited capacity to improve the education system, especially in rural areas, NGOs have filled the role usually played by governmental education departments. From the same study in 1997, which showed government expenditures, NGOs were found to have contributed around USD 7.00 per student per year. In addition, 43 of the 77 schools surveyed had buildings built by various NGOs (Bray 1999). This is quite a large amount especially considering the non-profit sector only became a key actor in the Cambodian education field in the 1990s, after the fall of the Khmer Rouge. By 2008, Cambodia already had 200 international and 800 local NGOs working in development. For the 2007 to 2011 school years, these organizations budgeted millions of dollars towards Cambodian education: international NGOs, not including the World Bank and Asian Development Bank, budgeted just under USD 87.4 million, while local NGO groups budgeted around USD 12.5 million (UNESCO 2010).

Financially, NGOs are strategically placed to actively participate in the Cambodian education system. In fact, educational NGOs may be the best chance for many girls who would like to pursue their education. This is because NGOs do not have such broad goals

as the government, but are able to focus their work on various regions and tackle problems on a community level. That being said, it is important not to confuse the role of NGOs with the role of the government. Some suggest that the prominence of the NGO came about as a response to increased dissatisfaction and growing skepticism towards the way in which developing countries handle donor funds. This type of theory implies that NGOs are filling various gaps in services that developing countries do not provide and promotes the idea that NGOs can be a replacement for some government duties. This, however, can be counterproductive by relieving the government of its responsibilities. Thus, this thesis will focus on NGOs as capacity builders.

The United Nations Educational, Scientific and Cultural Organization (Ulleberg 2009) proposes that NGOs, especially when working in the field of education, focus on capacity building, which means building upon the existing capabilities of the government. This type of approach acknowledges that NGOs are in the perfect position to create positive change, but puts the government as the leader. Many NGOs are smaller organizations; they are more flexible and are more quickly able to adapt to the areas they serve in. Because of these features, NGOs are thought to be more innovative in bringing solutions to the areas in which they are located. The capacity building approach puts NGOs in a position to strengthen the state, while holding it accountable.

6.2 Supply-Side Education Intervention Programs

How then can NGOs best assist the Cambodian government in implementing programs that will encourage girls to attend and graduate from school? First, keeping in mind the barriers that females face, NGOs can try to mitigate these disadvantages. Generally, NGOs implement intervention programs to try and curb the various social and financial costs that females face. Such interventions are often categorized into two groups: demand and supply-side (Carpenter et al. 2013). Supply-side interventions try to bring education to a community by building schools or providing supplies. Such interventions provide communities with all of the tools needed for an education system. On the other hand, demand-side interventions try to bring children to the school by focusing on programs that would increase parents' willingness to send their children to school.

With limited resources, NGOs of course have to make decisions about which type of interventions work best. Historically, supply-side interventions have been the most common type of program. This may in part be because these types of programs are the most simple to implement. Providing schools or textbooks are extremely straightforward interventions. The problem with these types of programs is that they generally focus on quantity by providing a product to as many students as possible, which can only cut down the students' cost of attending school by a small amount.

The cost-effectiveness of supply-side programs may generally be lower than that of demand-side programs. In fact, a study completed on a program in Mexico called PROGRESA, estimated the effects of two of the program's interventions. The supply-side intervention involved building more schools, while the demand-side intervention provided financial incentives to parents to send their children to school. The study used double-difference regression to conclude that the demand-side intervention was much more cost-effective, in large part due to the much larger number of additional extra years of schools that the intervention would assist students in completing. The study estimated that out of 1,000 boys and 1,000 girls, the demand-side intervention would increase years of school by a total of 254 for the group of boys and 532 for the group of girls. The supply-side intervention, on the other hand, was only estimated to increase years of education by 27 for girls and 25 for boys (Ruel et al. 2002). It is with these types of studies in mind that NGOs are becoming increasingly aware that providing schools, teachers, and supplies are not enough to incentivize students to attend school.

6.3 Demand-Side Education Intervention Programs

Demand-side interventions, though more complex, have been shown to be more effective. In the previous section, it was seen that girls obtained over twice as many extra years of schooling due to a demand-side intervention than boys in the same program. Thus, girls may be more highly susceptible to these types of interventions, which most often work to reduce the costs of attending school for students in order to increase the demand of education, generally measured by school attendance. This section briefly outlines several such demand-side interventions.

The first intervention, vouchers for children to attend school, is a relatively straightforward intervention. The largest voucher program, PACES in Colombia, assigns vouchers to students by lottery. While a study of this program found that vouchers increased the education level of participants, it was generally due to the fact that students were no longer repeating grades. Furthermore, the study acknowledged that the voucher winners were more likely to attend private schools, which are generally considered to be of better quality. In addition, as the vouchers were based on a lottery, many students already were attending private schools and thus moved to more expensive schools (Angrist et al. 2002). Vouchers systems have not been extensively used in developing countries and it is unclear how similar the effects on female students would be in a country such as Cambodia.

Other interventions focus on providing health and nutrition solutions to increase the demand for schooling. Nutrition programs come in various forms, such as providing breakfast and lunch or supplying students with food to take home. The World Food Programme (WFP) does this on the largest scale. While nutrition programs tend to increase enrollment rates, there have been no conclusive results that suggest it also improves learning outcomes, in part due to poor quality of schools. For example, in Kenya, school participation rose by 30 percent, but this created larger class sizes and the quality of teaching did not improve (Kremer & Vermeersch 2004). In addition, schools that received school lunches increased school fees, while surrounding schools decreased their fees, unfairly skewing the finances of the schools.

Health interventions often have similar effects to nutrition interventions. In Sri Lanka, for example, a group of 587 students were used to test the impact of malaria on school (Fernando et al. 2006). While one group received pills against malaria, the other group received placebo pills. The study found that those who received the malaria pills were 62.5 percent more likely to attend school than those who did not. Another study, completed in Kenya, showed that schools that were given deworming drugs reduced absenteeism by 25 percent, however it found no links to better grades or learning outcomes (Kremer & Miguel 2004). While the effects on learning outcomes are inconclusive, studies done on health interventions continuously show a positive impact on attendance.

Next, a lesser-used intervention program involves providing information to parents and students on the importance of education to increase school attendance. These types of interventions generally try to inform students and parents of the potential economic benefits of education by providing them with statistics on prospective earnings. One study conducted showed that although parents who underestimated the returns to education increased the attendance of their children, parents who had overestimated the returns to education decreased the attendance of their children (Nguyen 2008). While the results of such interventions are not conclusive, the previous study shows information interventions may work in areas where the returns to education are underestimated.

Lastly, one of the most effective ways of reducing costs is through cash transfers. These transfers are generally given to students or their families and can be conditional or unconditional. Unconditional cash transfers are sums of money given to families without requirements for receiving the money and with no restrictions guiding how to spend the money. One study was developed to understand whether the conditions are an important and necessary role in cash transfers, or if added conditions are simply an unnecessary administrative cost. This randomized study analyzed the Bono de Desarrollo Humano (BDH) program in Ecuador, which is a cash transfer program; however, only some of the parents were told that the scholarship was contingent on school enrollment (Araujo & Schady 2008). The budget of the BDH program was quite large and the program was allocated .7 percent of national GDP. The study used baseline and follow-up surveys to find that the BDH program did have a large impact on school enrollment. Using the differences-in-differences approach, the study found that the effect of the BDH lottery was almost four times as large on school enrollment for households who believed there was an enrollment requirement. Perhaps even though some children focus on just barely fulfilling the conditions of cash transfers, the conditions are needed to get children into school. In this particular situation at least, the increase in attendance can be attributed more to conditions than to an income effect.

While unconditional cash transfers come with no set of requirements that recipients must fulfill, conditional cash transfers are only paid to recipients if they fulfill the

conditions of the cash transfer. In schools, CCTs are often given in the form of scholarships or stipends to children or their parents as long as students meet either attendance or grade requirements. Conditional cash transfers are able to address a myriad of barriers, as the cash transfers can also be used to pay for items that supplement a child's health and nutrition. For this reason, CCTs will be the main consideration of this thesis, and thus focused on in greater detail in the next chapter.

6.4 Conditional Cash Transfer Programs Around the World

Conditional cash transfers gained popularity around the world in the 1990s, when they were used extensively throughout Latin America. This section will examine the studies conducted on the various CCT programs throughout Latin America, while the subsequent section will cover the more recent attempts to replicate these programs in Cambodia.

Perhaps the most famous of all CCT programs is the PROGRESA Program, which was implemented by the government of Mexico in 1997 as part of a more comprehensive strategy to reduce poverty. The program was implemented after interventions attempting to bring food and other products to rural areas were deemed insufficient. PROGRESA provided the mothers of both rural boys and girls with educational grants, as long as the children attended school. Haven et al. (2001) conducted a study on the PROGRESA Program by comparing 314 communities, which were selected to participate in the program to 181 similar control group communities, which would begin the program two years after the first group. Using the difference-in-differences approach, the study found that the grants reduced the cost of education by 50 to 75 percent. In addition, the study found that the level of enrollment rates of children in PROGRESA communities was higher than that of control communities. These results were found to be statistically significantly different from zero in grades one through six. It was also found that the program had a greater effect on girls. This study was one of the first that very positively recommended CCTs to be used within an even broader scope.

The Programa de Asignación Familiar (PRAF) was a CCT program implemented by the government of Honduras during the 1990s to alleviate poverty in rural households. In 1998, it was redesigned, now called PRAF II, to encourage poor families to send their

children to school and also invest in healthcare. The PRAF II program was implemented in some of the 70 selected rural communities in Honduras, while other communities were used as control communities for a study on the effectiveness of the program (Glewwe & Olinto 2004). The PRAF II program was aimed only at children in primary school. Families were given cash transfers on the condition that their children maintained an 85 percent attendance rate. However, the attendance rate proved difficult to enforce. Using multiple regressions, the study found that the cash transfers did increase the enrollment rate of children from 79.4 percent to 86.1 percent. A regression analysis showed that the demand intervention was statistically significant at the five percent level.

While the PROGRESA and PRAF II programs were both found to increase school attendance rates of participants, it is unclear whether or not the programs had any other effects. For example, one study conducted in Brazil also aimed to understand if CCTs could be used to reduce child labor (Cardoso & Souza 2003). Child labor is a characteristic of many of the rural poor and consequently a major reason that children choose not to attend school. Therefore decreasing child labor could potentially increase attendance in school. The study examined four CCT programs in Brazil: PETI, Bolsa-Escola, Bolsa-Escola Federal, and Renda Mínimal and compared students with grants to students who were eligible for the grants, but did not receive the grants. The study found that 96 percent of girls attended school in the treatment group, while only 93 percent attended school in the control group. The boys showed similar results. However, while the results of this study show these programs did increase attendance, they did not help to combat child labor. In Brazil's case, CCTs may have had no real effect on learning outcomes, as working children are not able to allocate the necessary time and energy generally needed for school. When children are forced to work as well as go to school, the time dedicated to studying becomes less and the commitment to learning becomes secondary to simply fulfilling the conditions of the scholarship. Therefore, CCTs can bring children to school, but perhaps alone these scholarships are not enough to keep children engaged in school.

Finally, an important question remains. What happens when the cash transfers stop? Do children go on to finish school even after the transfers are ended? In Nicaragua, the

effects of a CCT program were evaluated using before and after surveys for both treatment and control areas (Maluccio 2007). The program, Red de Protección Social, was also modeled after PROGRESA and had an initial budget of USD 11 million. The program gave cash transfers to poor, rural families in Nicaragua in order for children aged 7–13 to be able to attend school, contingent upon their attendance. While the study aimed to understand whether there were any long-term effects after the program, there was limited evidence and the question of what happens to students once cash transfers cease has yet to be sufficiently answered.

While the above examples of CCT programs give a foundation for understanding the various methods such interventions can employ, there is no guarantee that such programs would transfer successfully to another country or even another region of the world. First, the cultures and traditions of the various Latin American countries examined differ a great deal from those of Cambodia. Attitudes on education and its importance certainly play some role in whether an intervention will be effective. Second, Cambodia's infrastructure is less developed than the countries used in these studies, which have stronger governments and quality control in education. Developing countries often have lower qualities of education, which could decrease the effectiveness of any given program. And third, most of the CCT programs implemented in Latin America provided scholarships to younger students, both girls and boys. Conditional cash transfer programs focused only on girls may have somewhat different results.

6.5 Conditional Cash Transfer Programs in Cambodia

With the success of CCT programs in Latin America, programs in Cambodia have begun to adopt such programs. The use of CCTs has been present in the education sector, especially due in part to the presence of NGOs, since the early 2000s. Though the CCT programs in Cambodia have been less researched than their Latin American counterparts, several studies have been done on the largest programs. These programs are shown in the table below and include:

- Japan Fund for Poverty Reduction (JFPR) Scholarships
- Cambodian Education Sector Support Project (CESSP) Scholarships
- Cambodian Primary School Scholarship Pilot (CPSSP)

Table 6: Cambodian CCT Programs

Program	Students	Scholarship Amount	Funding	Selection Criteria	Conditions	Years Operated
JFPR	NA	USD 45 yearly	Asian Development Bank and UNICEF	Poorest Females	Enrollment, Attendance, Satisfactory grades	2003 - 2006
CESSP	27,502	USD 60 or 45 yearly	World Bank	Poorest (highest dropout risk)	Enrollment, Attendance, Satisfactory grades	2005 - present
CPSSP	5,162	USD 20 yearly	Cambodian Government	Poorest and merit-based	Enrollment, Attendance, Satisfactory grades	2008 - 2011

The first program, The Japan Fund for Poverty Reduction (JFPR) scholarship program in Cambodia began in 2004 and gave scholarships to girls who completed sixth grade, the last grade of primary school (Filmer & Schady 2008). The JFPR program selected 93 schools, and within each school approximately 45 girls to partake in the program. This was a large program that covered about 15 percent of all lower secondary schools. These students were given USD 45 yearly; a substantial amount considering the GDP per capita in 2002 was USD 337. The program promised to continue the scholarship for three years with the goal of keeping girls in school during the lower secondary level. The scholarship was contingent on attendance and good grades and given on the basis of need, but nothing was done to ensure the funds did indeed go to the students' education. Ordinary least squares regressions were used to make comparisons between those who received the scholarship (the treatment group) and those who did not receive the scholarship (the control group). The regressions showed that students targeted were indeed of lower socioeconomic status, based on factors such as wealth, lending, types of house, and means of transportation. The study concluded that enrollment and attendance of recipients increased by 30 percentage points. This amount is extremely high, especially when considering that those selected were generally poorer. Furthermore, evidence was found that while girls whose parents had received higher education increased their enrollment by 22.1 percentage points, girls whose parents had low education increased their enrollment by 32.3 percentage points. Other than enrollment, the study did not research whether the program resulted in any

other positive effects, such as improved learning outcomes or decreasing dropout rates even after the scholarship ended.

The CESSP Scholarship Program had a more intensive process for selecting its scholarship recipients. Scholarships were given to both male and female children during the three years of lower secondary school, but the recipients were those who were at the highest risk for dropping out (Filmer & Schady 2009). This program worked to identify 100 of the poorest lower secondary schools throughout Cambodia, out of around 800 total lower secondary schools. Primary schools whose graduating children went to these schools were also identified and during the sixth grade year, all students, regardless of parent interest, were required to fill out an application form. The questions were designed to assess the poverty level of the students. Afterwards, the "dropout-risk-score" of the students was calculated and scholarships were awarded to the highest-risk students, two-thirds of which were girls. A total of 3,800 out of 26,537 students were selected. The purpose of the Filmer and Schady study aimed to use the CESSP program to analyze the relationship between school enrollment, selection, and test scores. The study used regression discontinuity to estimate the effects of the program. Students who participated in this program were found to be 25 percentage points more likely to be enrolled in school. However, no impact was found on test scores during this study, conducted 18 months after the program began. The tests used to determine this were in mathematics and vocabulary. This program continues today, but now includes all nine years of basic education.

Most of the interventions discussed have chosen scholarship recipients based on need or by lottery. The Cambodian Primary Scholarships Pilot, however, chose a different method and targeted students based on either merit or need. The Primary School Pilot Program was based on the secondary school programs and transferred USD 20 to students yearly for grades 4, 5, and 6. In 2008, 104 schools became part of the program, followed by 104 schools in 2009. Half of the schools in each year had students chosen based on merit and half based on poverty. The results from the study showed that while both merit and poverty-chosen students had higher attendance and were less likely to drop out of school, only students who received merit-based scholarships were more likely to do better on tests (Barrera-Osorio & Filmer 2013). While studies have shown

that awarding CCTs on merit is more effective, it should be noted that generally a higher economic status is often associated with higher academic success. Therefore targeting those who are the most motivated might leave out the most disadvantaged students.

While the Cambodian CCT programs give a better picture of intervention implementation, there are still some important questions to be addressed. First, while there have been several larger-scale CCT programs in Cambodia, a large amount of funds dedicated to education come from small and medium-sized NGOs working either internationally or solely in Cambodia. Given a limited amount of resources, how can these NGOs best use their funds to support the education of women? Conditional cash transfers have been shown to be effective, but how and at what age should this tool be implemented in order to best support these girls? Additionally, what components of the CCT programs most influence a girl's decision to attend school?

Chapter 7: Research Design and Background of Case Study

7.1 Case Study Overview

In order to find answers to the questions posed at the end of the last chapter, a qualitative study was created to evaluate a small CCT program providing scholarships to girls in rural Cambodia. This section serves as a brief overview of the NGO operating the program: The Cambodian Arts and Scholarship Foundation (CASF). The next three sections in this chapter will discuss qualitative methods, research design, and research constraints respectively.

The Cambodian Arts and Scholarship Foundation was founded in 2001 with the mission of investing in education for poor and at-risk girls. While the organization uses a multi-faceted approach, the foundation of the program relies on conditional cash transfers and operates in three provinces: Kandal, Kampong Cham, and Svay Rieng. The evaluation was conducted only in Svay Rieng (see Appendix B).

CASF operates two programs, which both focus on girls' education. The first program, the Individual Pupil Program, identifies eligible girls in the provinces through the help of a local education coordinator. The selection process is primarily based on merit and

motivation, though the poorest girls are given priority. In the past, scholarships have been given at grade 6, though currently scholarships begin in grade 8 or 9. CASF then provides the selected girls with financial and medical support for as long as the girls wish to learn, including through university. The stipend consists of USD 15-25 monthly and is contingent upon attendance. In addition to the stipends, extra money for tutoring is provided, as well as medical care and a bicycle.

After students pass the national exam, they have the opportunity to join the CASF University Women's Program (UWP). The UWP program began in 2005 in order to support the students who wished to attend university. The average amount that CASF pays per year for each college student is USD 1,500. CASF also aims to eliminate another barrier to higher education by providing dorms. Essentially, even if students do have the money to pay for tuition, many are afraid to leave their families and go to Phnom Penh, where most of the universities are located. By providing dorms, scholarships to cover tuition, and stipends for basic living expenses, university students are able to focus on studies.

Since the program's inception, approximately 350 girls have participated or are currently participating. Of this number, less than 30, around 8.6 percent, have dropped out. In addition, 70 girls have graduated university in the last ten years and there are currently 20 girls studying at the university and majoring in a wide variety of subjects, including psychology, midwifery, history, Khmer language, biology, accounting, and tourism. While these numbers are promising, in order to better understand the effectiveness of the CASF program, these girls and other members of their communities participated in a qualitative evaluation.

7.2 Qualitative Research Methods

Before examining the research design in the next section, the theory behind qualitative research methods will be briefly discussed to provide a framework for the study. In recent years, many quantitative studies have been conducted to obtain robust information on various programs, especially through various regressions or randomized controlled trials. However, especially for small organizations, these methods can be expensive and take years to fully implement and obtain meaningful

results. Qualitative analysis, on the other hand, is a method that requires fewer inputs and thus has been gaining popularity in recent years. Qualitative research can be especially important when conducted on the community level, and necessary to understand the nuances and relationships between all those living in the studied areas. Due to its increasing popularity, an extensive amount of comprehensive literature and handbooks can be found on the best ways to conduct qualitative research (e.g. Bryman & Burgess 1994; Denzin & Lincoln 2007; Huberman et al. 2014).

Qualitative research covers a variety of studies, which is why most comprehensive works separate the research by intent, such as contextual, explanatory, evaluative, and generative (Lewis & Ritchie 2003). The type of research this thesis will concern itself with is primarily explanatory and evaluative. In other words, the aim of the research will be to explain what barriers exist to female education and evaluate what factors are important in implementing an intervention program. While there are various ways of setting up and conducting a qualitative study, the most common method is through interviews or observation. Analysis of the data is more complex and there is still no single framework to follow in regards to qualitative research, as analysis depends heavily on the type of study. However, this thesis will analyze the gathered information through creating thematic networks, one of the most utilized ways of analyzing qualitative information.

Ritchie and Spencer (1994) created one such framework that relies on thematic network analysis to be used in applied policy research. Because a large portion of quantitative data contains a great deal of text, such as interviews and personal accounts, creating structure is important. To build a coherent structure, the policy research framework includes five stages of qualitative analysis, summarized below.

1. Familiarization: read and select all data and text; list any recurrent themes
2. Identifying a thematic framework: identify key issues, concepts and themes into which the data can be sorted
3. Indexing: annotate the information according to thematic framework
4. Charting: rearrange the data by themes

5. Mapping and interpretation: define concepts, find associations, provide explanations, and develop strategies

Attride-Stirling (1999) also created a framework for qualitative analysis, which is extremely similar to the policy research approach. The Attride-Stirling framework also includes coding and rearranging the text. However, the framework furthers the notion of thematic networks by dividing themes into basic, organizing, and global categories. Analysis of the research begins with identified basic themes gathered throughout the various texts. Basic themes are then clustered around organizing themes, which in turn create an overarching goal, or global theme. This thesis will use a synthesis of both of these frameworks in order to adequately organize and examine the information gathered during the research study.

7.3 Common Objections toward Qualitative Approaches

The recent increase in the use of qualitative research, however, has not come without objections. The typical objections are that this type of research is biased, unreliable, and rests upon interpretation (Kvale 1994). However, with these criticisms in mind, a thoughtful and useful study can be implemented and even be complementary to data-driven approaches.

The most common objection to qualitative research is that the responses of those being interviewed may not be trustworthy. This can happen when the interviewees are acting strategically or unintentionally giving skewed responses based upon cognitive biases. However, to reduce the chance of bias in response, a variety of various stakeholder groups were included in the evaluation. Obtaining responses from different groups of community members both involved with and removed from CASF helped to ensure a wide range of perspectives.

Additionally, the researcher can also be biased, which can often appear in the form of creating leading questions. To counteract this bias, open-ended questions were used in the evaluation so as not to provide interviewees with questions that may guide them toward a certain answer. In addition, interviews flowed more as a conversation in order to further discuss issues important to the interviewees. This helped to make the

interviewers less likely to interpret the responses with their preconceived opinions and biases. While bias cannot be completely avoided in research of this type, understanding its existence and causes can help to reduce it.

7.4 Research Design

Keeping in mind how the data would later be analyzed, the evaluation of the CASF program was carried out through a series of individual interviews and focus groups with various stakeholder groups (see Appendix C). These groups were located in both communes where CASF operates in Svay Rieng province: Duon Sor and Meun Chey communes. Open-ended questions were designed in order to best elicit the unbiased responses and concerns of each group. Each group was formally invited to meet with the research team, which consisted of two outside evaluators, including myself, and a translator. In addition, the director of CASF and the education coordinator also participated in focus groups with stakeholder groups that were further removed from the program, and therefore less likely to give biased answers due to the presence of program staff.

The aim of this study is to find out how well CCTs work in these particular communities and if there are other barriers to school that could also be addressed by CASF, or that would imply methods other than CCTs to keep girls in school. This is the first time such an evaluation has been conducted by CASF. The data collected from the interviews and focus groups focused on the communities' perception of both CASF and the education of women. The groups brought diverse perspectives to the discussion around CCTs and the education and empowerment of women. Details regarding the 138 participants and their corresponding groups are below.

Table 7: CASF Stakeholders

Stakeholder Group	Methodology	Number of Participants	Female Participants
Current CASF Students and their Parents (Grades 11 & 12)	Individual Interviews	24	24
Community Leaders <i>Commune Duon Sor</i>	Focus Group	9	1
Community Leaders <i>Meun Chey Commune</i>	Focus Group	14	1
Community Members with no CASF Affiliation	Focus Group	24	23
Parents of Former CASF Students	Focus Group	12	2
School Administrators and Teachers <i>Duon Sor High School</i>	Focus Group	26	5
School Administrators and Teachers <i>Meun Chey Primary and Secondary School</i>	Focus Group	17	7
Education Coordinator	Individual Interview	1	1
Current University Students	Focus Group	11	11

The first group included interviews with current CASF students and their mothers. While all parents were invited to participate, only mothers were in attendance. Only the evaluators and translator were present for this group and participants were kept anonymous in order to encourage honest answers. Questions were designed to elicit responses regarding any issues or troubles with the program or the selection process.

Two focus groups were held with the community leaders of both the Duon Sor and Meun Chey communes. In both meetings, the chief of commune was present, as well as various chiefs of village. The discussion with the community leaders was designed to elicit responses regarding the factors that contribute to parents keeping their daughters in school. The focus groups with the community leaders was vital to understanding both communes through the eyes of those charged with doing what is best for the community on a broader level.

Community members with no CASF affiliation were also invited to participate in a focus group. The questions aimed at this group also were created to obtain information on the decisions families make on whether or not to keep their daughters in school and whether or not these have changed over time. The later part of the discussion was

dedicated to discussing CASF and understanding what effects CASF has had on the community through community members who were detached from the process.

Another important group consisted of the parents of former CASF students who had already completed university. This group was asked questions about how the education of their daughter had impacted their families as a whole. The questions also dealt with the treatment of CASF students in the villages and how the community responded to these students.

Two focus groups were held with school administrators and teachers at both the Duon Sor High School and the primary and secondary school in Meun Chey. Both principals and teachers were in attendance during these discussions. As teachers interact with the students daily, they often have the closest perspective of why girls are doing well in school or why girls are dropping out. For this reason, the questions for this group also centered on the decisions families make to keep girls in school and what prevents girls from attending school. Questions were also developed to understand the dropout rate and the differences that prevent boys versus girls from attending school.

An interview was also held with the education coordinator who lives in the village and administers the program. As the education coordinator is closest to the program and the village, she has the best insight on how the program is working and how the village views the CASF program and students.

Finally, the opinions and perspectives of the current CASF university students were gathered. The students who are currently studying at the university level were able to give insight into why they decided to continue their education and how this choice has affected them personally. Understanding what factors girls consider when deciding whether or not to attend university contributed valuable information pertaining to the most effective interventions.

The research project was guided by an overarching approach called Lean Research, which is currently being further developed by researchers at the D-Lab at the Massachusetts Institute of Technology, the Fletcher School of Law and Diplomacy, and

the Feinstein International Center at Tufts University (Armstrong et. al. 2015). The Lean Research approach came from the growing sentiment that some of the research done in developing countries is not respectful or relevant, and often the communities in the study receive nothing in return. The process, therefore, encourages placing the participants or community at the center of the study in order to minimize their burden, as well as create value for them. However admirable in intentions, the Lean Research approach is quite vague and leaves a great deal up to interpretation. What Lean Research does provide, however, is guiding principles to consider, which were taken into account when designing this study.

The first principle supports rigorous research, regardless of the methodologies used. Those behind Lean Research found that research-based evidence is not often used in many NGOs, as organizations are very path-dependent. Therefore it is important not to use leading questions to get answers wanted for stakeholders. The second principle states that research must be respectful to all participating in the process. This means that participants give consent, their privacy is protected, and they are compensated if necessary. The third principle shows that the research should be relevant to the stakeholders and research subjects. This step points out that it is critical to ask subjects what their priorities are, instead of inferring them. Finally, the fourth principle states the research must be right-sized, which refers to the size and cost of the research in comparison to the impact of the study.

7.5 Research Constraints

Although the funding for the evaluation did not come from CASF, CASF members were visible during the focus groups and interviews. While familiar faces may have made some feel more comfortable, it also increases the chance of receiving biased answers. The group of students currently receiving scholarships, of course, was the group most likely to give biased answers. This is, in great part, due to the fact that CASF holds the power of giving the scholarship to them. On the other hand, all other groups had less direct stake in the CASF program, and were less likely to give biased answers.

As previously mentioned, the questions gathered primarily qualitative data. A major problem in the provinces of Cambodia is a lack of data. Finding accurate population

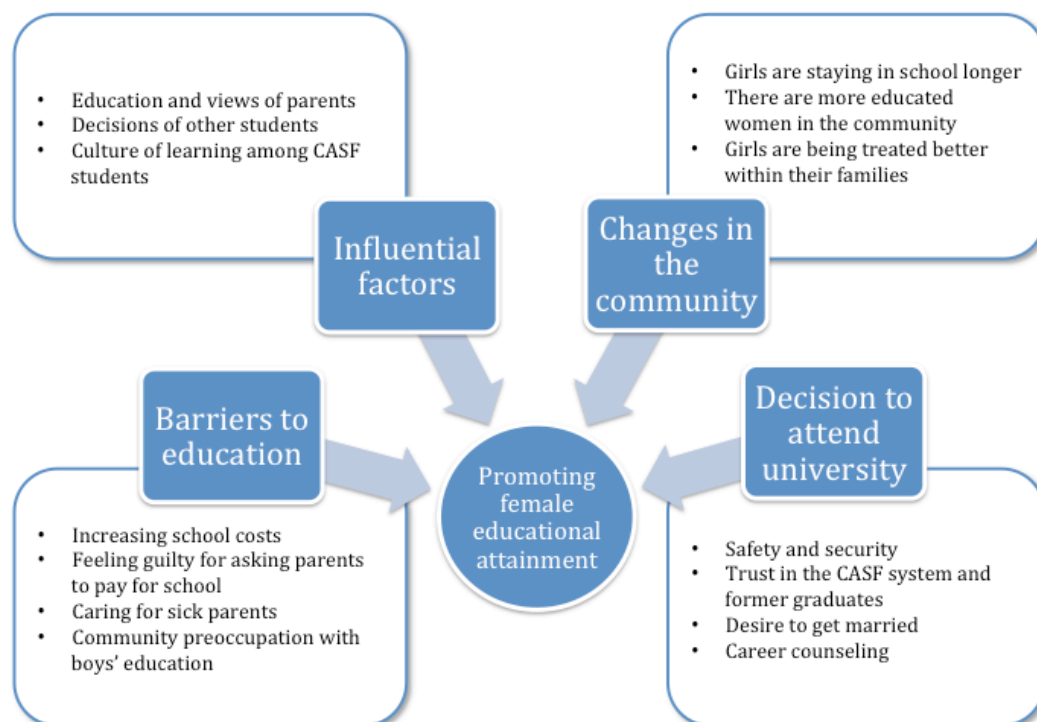
numbers is difficult and to find population numbers by village is nearly impossible. In addition, the data provided by schools is often missing or inaccurate. Many teachers may not consistently record attendances and though the enrollment rates and number of dropouts are recorded, it is unknown how accurate these figures are.

Chapter 8: Important Findings of Case Study

8.1 Recurring Themes

By following the approaches outlined in the two thematic network frameworks in the previous chapter, information was taken from interview recordings, notes, and observations and structured into a thematic network, shown below.

Figure 2: Thematic Network



The basic themes of the group are shown as bullet points in the above figure. They were chosen because they constitute the responses and comments made most frequently during the interviews. Once identified, the basic themes were connected and sorted into organizing themes. The four organizing themes selected create a structure by which to analyze and examine the basic themes in depth. Finally, the global theme links the

whole network together with the goal of promoting female educational attainment. While keeping this encompassing theme in mind, each of the four organizing themes will now be examined in turn.

Due to the nature of the interviews, there was much discussion around the first theme: barriers to education. Because there is a plethora of literature surrounding the various social, cultural, and health obstacles that women in developing countries may face in receiving an education, it was unexpected to find that the community in general felt that women dropped out of school only due to financial reasons. The consensus throughout all groups was that school is becoming more expensive and girls drop out of school because they cannot afford to pay for it, or because they reach an age where they are capable of working. The price of schooling does not only burden parents; students also revealed that they feel guilty when they must ask their parents to pay for their schooling. This may even cause some students to make the decision to drop out of school without parental pressure. When prompted for other reasons that females may drop out of school, almost all groups restated financial reasons. While one group of community leaders did mention that some girls might drop out of school if their parents are sick, it was not deemed to be a common occurrence.

Though it was not specifically mentioned as a barrier to education, it would seem that girls still face social barriers to education. This could be deduced from the preoccupation many community members had with the education of boys. For example, the interview groups repeatedly wanted to understand why CASF did not consider boys as scholarship recipients. The teachers in both communes also supported this statement by arguing that more boys than girls are dropping out of school. There does not yet seem to be an understanding in the community regarding why only girls are being chosen for the scholarships.

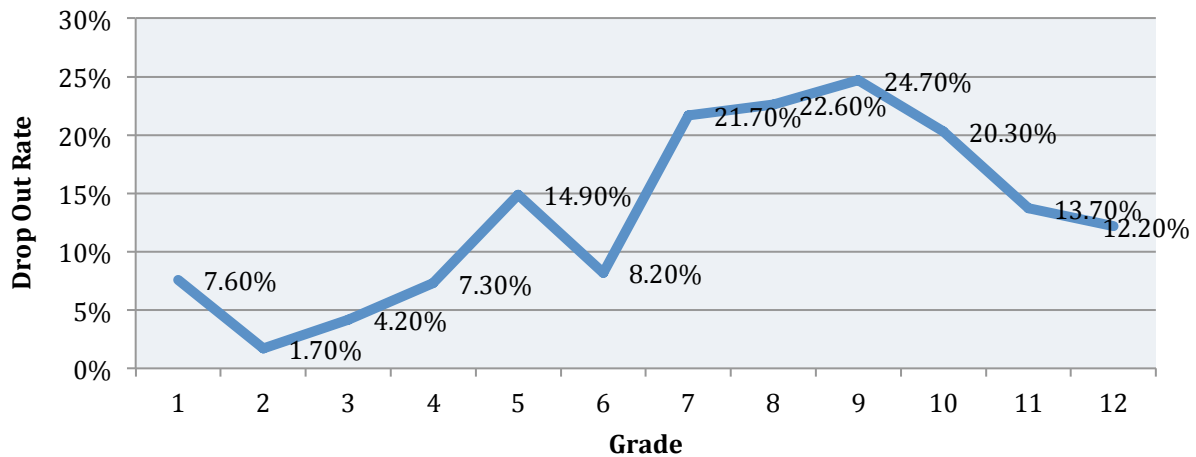
Aside from the barriers girls often face, the interview discourse often turned to what other factors are influencing women. The second organizing theme, factors of influence, was therefore chosen due to the frequency with which various groups initiated a discussion regarding the extent to which family and classmates influence a girl's decision to attend school. While these influences were not seen as barriers to education,

many interview participants stressed the impact in which these factors affect girls' education.

The mothers who participated in the evaluation unanimously wanted their children to go to school, which is unsurprising given that the mothers who attended the discussion either had daughters in CASF or were curious about the program. However, their reasons for being interested in CASF were more insightful. The mothers generally agreed that they had seen other educated women in the village that did not have to work in manual labor and they wanted this type of life for their children. The group did note that many parents in the village do not have such positive feelings about school and that they often pressure their children to drop out, as they believe children are only wasting their money. The community leaders agreed that parents often have a large influence in their children's education and that parents who have models of what opportunities education can provide are more likely to keep their children in school. Community members who dropped out of school tended to believe that the girls simply need encouragement, and stated that they would have stayed in school, but were not encouraged to do so.

In addition to the influence of family members, the decision to attend school seems to be quite dependent on decisions made by other classmates. As previously stated, many girls drop out of school in order to begin working. The community leaders in both communes stated that they believe this happens often not because the children cannot afford school, but because their friends go to the city to work in factories and then return to the villages and boast about it. This, in turn, encourages other young women to find work in cities as soon as they are old enough. In the garment industry, girls must generally be 15 years old to work, though the law states that this age can be reduced to 12 years depending on the nature of the work (Cambodian Center for Human Rights 2014). The group of teachers and administrators made the same such statements, with the consensus also being that many students drop out to go work in the factories. The information can be confirmed by looking at the dropout rate for girls only in Svay Rieng throughout all grades, shown below. Indeed, the dropout rates are highest when girls generally reach working age, which occurs in lower secondary school.

Table 8: Female Dropout Rate, Svay Rieng 2012/2013



Source: Cambodia Ministry of Education, Youth and Sport, 2014. *Education Statistics & Indicators*. Phnom Penh: Kingdom of Cambodia.

At the same time, classmates and other girls in the community can also be a positive influence in continuing education. The CASF students replied that their decision to stay in school was made easier by the support group they found in other students participating in the CASF program. One girl even stated that while most children are only trying to receive passing grades, the students receiving scholarships have a deeper desire to learn, which has been cultivated within the group. In fact, other CASF graduates are often encouraging the girls to also attend university. This type of influence, however, will be further discussed under the fourth organizing theme.

While the barriers and influences have a great influence on finding the best way to promote female educational attainment, the third organizing theme recognizes the view of the community and how it has changed regarding female education in the last ten years. Perhaps the broadest change mentioned is the general increase in the socio-economic status of the communes, due in part to the amount of NGOs working with villages in areas such as agriculture and sanitation. This general increase in the wellbeing of the villages has helped to keep girls in school longer. While the highest dropout rates used to occur around grade 6, teachers believe the current trend is around grades 8 and 9.

While some wondered whether girls who had decided to attend university would return to their villages upon graduation, the community has found that most girls do return and have even been able to help support their families. These returning university graduates have helped to encourage parents and other community members to support their girls to attend school. One graduate even told how she was not respected in her family as much as her brothers, but after she went to the university and was able to earn more money, she gained respect within her family. Overall, it seems as though the communities are gradually becoming more aware of female education and the opportunities it can provide.

Because university graduates in the community seem to have played a very important role in promoting female education, the fourth organizing theme was devoted to compiling the factors that women consider when making the decision to attend university. Aside from finances, the main concern prevalent among the interview groups was safety. Generally, going to university means moving to the capital city of Phnom Penh, a considerable change from living in a remote village. The girls revealed that the move would perhaps be daunting if CASF did not operate a dorm in Phnom Penh where the girls are able to stay together. In addition to the dorms, the girls added that there is also a trust factor. Because the girls have built a relationship with CASF and trust their education coordinator, it adds a level of safety and security in knowing they have someone to reach out to if they have any issues. Also, many of the girls who wanted to go to university said that they had friends who went and their friends had come back to the village and gave very positive feedback. Seeing how CASF interacted with the university students and supported them seemed to be a major factor in deciding to enroll in university.

However, it seems that some young women may choose to pursue university not for academics alone. Unprompted, several groups suggested that, while finding a husband may not be a major factor in deciding to get an education, it is a consideration. However, contrary to the earlier presented research, both groups who acknowledged this stated that students often go to Phnom Penh and eventually find a good husband. This implies that while marriage may very often be a consideration, it certainly does not seem to be

keeping the girls from pursuing education. Indeed, it may be a reason to pursue a university education.

Lastly, through observation it was apparent that many of the girls had an unclear idea regarding what they would study if they were to attend university. Again, many students seemed to rely on the answers of their friends when deciding what they would like to pursue in the university. Individual career counseling sessions conducted by CASF during the week of evaluations showed that without this information, these girls had little idea of what their options were or how to obtain them.

8.2 Effect of Conditional Cash Transfers on the Community

While the CCT program is able to motivate participants to stay in school, there are some questions to its efficiency and overall effectiveness. As stated, the scholarships begin in eighth and ninth grade and continue for as long as the recipient wants to learn. However, it is unclear whether the girls receiving the scholarship would drop out of school without these extra funds. As mentioned early, CASF awards scholarships based on merit and motivation. Though the extent of poverty is also considered, it would appear that most of the students who have reached secondary school are likely able to fund their education. Furthermore, the most disadvantaged children have already dropped out or perhaps never even enrolled in school.

However, while this intervention may not address the most at-risk children, it appears to be offsetting the opportunity costs of attending school for those students who finish primary school. From the interviews, it was apparent that some of the community members believed the children who studied until these grades could afford school, but simply choose to work instead. While CCTs do offset the costs of working, are they really the most effective incentive if not being able to afford school is not the reason for dropping out?

The need for financial support in the community in order to attend university was more convincing. Though more research is needed, the CCT program seems to have had the most positive impact on the community by increasing the amount of university educated women in the village. While no information is available on the university

attainment of women in Svay Rieng, through discussions with the community it was clear that without a scholarship, women are not likely to attend university due to high costs and the considerations discussed in the previous section. By eliminating the concerns of children and parents, young women participating in CASF are able to attend university. Upon graduation, these young women are returning to their villages and contributing to the changing view their communities have on women in education.

These university graduates also add to the group of positive influences for educating girls. Students from villages rarely have role models of successful educated women. Instead, girls often see the return of former classmates, who are now working in factories and earning a salary. With this information, the student has the decision to stay in school and lose out on several years of earning wages, or to quit school now and earn money. Without more information, the latter often occurs. Increasing the amount of female university graduates in the community is certainly assisting in promoting education to other girls.

Chapter 9: Future Research

9.1 Alternative Interventions

Conditional cash transfers are of course one possible solution to keeping girls in school, but more research could be done to ascertain whether there is a more efficient option considering the limited funding of the implementing organizations. While CCTs in secondary school do offset the opportunity cost of education, many students at this stage tend to base their decision of attending school on the information they receive through their relatives, classmates, and other community members. Harnessing the influence of these factors may be able to persuade a growing number of girls to graduate secondary school and even attend university.

Thus, there are two components that could be considered to increase the educational attainment levels in the communities: personal connections and information distribution. Large-scale interventions often disregard the extent to which personal connections can influence an individual's decision. Perhaps an intervention that simply connected secondary school students with university graduates would boost

educational attainment and decrease dropouts. Especially for those students who are able to study until lower secondary school, having influences such as seeing educated women in the community may help to keep girls in school. Having these role models demonstrates to women what opportunities they can have by graduating secondary school and university.

The second component, information distribution, also seems to have greatly influenced many students to stay in school, though more research could be completed to find the effects such specialized information campaigns may have on the girls in these communities. Additionally, the issue of trust, which was brought up among the university students as an important factor in their decision to attend university, must be considered. Because the students had a relationship with CASF prior to university, they trusted the program to assist them through university. While many information campaigns have proved to be inconclusive, perhaps if information from the community was provided by a source that community members trusted, this type of intervention could prove more successful. The type of information given must also be considered. Rather than distributing statistics across the community, perhaps a more tailored approach could be used to provide students with information that would be suitable personally to them.

9.2 Suggestions for Future Research

The use of personal connections to distribute educational information has the potential to increase the value that girls associate with education, thereby encouraging more girls to stay in school. Perhaps information campaigns have not been extremely prevalent in the past, because they have failed to realize that the source of information is as integral to an intervention as the information itself. A program that provides female students with an opportunity to establish regular contact with an educated mentor could create a situation where the mentors are able to build trust and provide more individualized educational information, thereby leading to fewer drop outs. In order to test the effectiveness of such an intervention, more research is needed. This section outlines how two such studies could be conducted using randomized controlled trials.

The first intervention attempts to harness the influence that educated young women already have in their communities. The evaluation found that many girls who complete university return home with decent jobs and this has influenced other girls to stay in school. However, if these university graduates were to become mentors for other young women and provide them with information on their experiences at university and in finding employment, the perceived value of education could be increased and the opportunity cost of attending school would thus decrease. In order to measure the influence of this type of intervention, a randomized controlled trial could be used with the following specifications:

Table 9: Proposed Intervention I

University Graduate Mentors Intervention	
Intervention	Assign female students to university graduates to meet hourly once a week
Participants	Lower secondary school girls (grades 7 – 9) Control Schools: Do not receive intervention Treatment Schools: Receive intervention
Baseline, monitoring, and follow-up data	Age, number of extra classes, attendance, grades, intention to continue school
Comparative analysis	Promotion rates, dropout rates, graduation rates

The participants of the study would be girls in lower secondary school who at the time of implementation were not acquainted with any university-educated women. The control and treatment groups would be divided at the school level to avoid any communication and influence between groups. After filling out a baseline survey including the students' current number of extra classes, attendance, grades, and intention to continue school, the participants in the treatment group would be assigned university graduate mentors from the community. Meeting with the mentor hourly once a week would assist the participants in building trust with their mentor and increasing the value of the information transferred. While mentors and maybe even students would need to be paid for their time, the cost would be much less per student than supporting individuals with the entire cost of their secondary education. This type of intervention would thus free up resources and allow a greater number of girls to be covered by the intervention.

The success of the intervention could be measured by comparing the dropout, promotion, and graduation rates of the treatment and control groups. In addition, the changes in individual data could be analyzed by comparing grades, attendance, and other indicators from the inception of the program to results at six months and one year after the program was implemented. Then comparing students in the treatment and control groups would show if having a university graduate mentor improved test scores and attendance.

The second proposed intervention also attempts to provide information to students in order to increase the value that students give to education, but through the channel of career counseling. Career counseling may be of special interest to young women who are unaware of what options education can provide them with, apart from information they have gathered from others members of the village. Mentors would be assigned to students, much like in the first intervention, however this intervention would also attempt to measure the effect personalized information campaigns can have upon individuals by implementing two different types of treatment groups. While the first treatment group of participants would receive individual time with a mentor, the second treatment group of participants would participate in sessions with a mentor in groups.

Table 10: Proposed Intervention II

Career Counseling Intervention	
Intervention	Assign personal career counseling once a week to students in some schools, and in groups in other schools
Participants	Lower secondary school girls (grades 7 – 9) Control Schools: Do not receive intervention Treatment Schools I: Receive personal intervention Treatment Schools II: Receive group intervention
Baseline, monitoring, and follow-up data	Age, number of extra classes, attendance, grades, intention to continue school
Comparative analysis	Promotion rates, dropout rates, graduation rates

Again, the intervention would involve girls in lower secondary school and include the two treatment groups as shown above, as well as a control group which would not receive the intervention. The control and treatment groups would be divided at the school level to avoid any communication and influence between groups. The assessment

of the intervention would be conducted much as the first intervention, but with special attention to the variation between the two treatment groups.

The two types of interventions just mentioned have not been substantially researched. However, one study conducted in Madagascar did examine the difference in educational attainment between providing students with statistics versus sending a role model to schools (Nguyen 2008). While the study concluded that statistics were an efficient way of improving school attendance, the impact of role models was shown to be quite small. However, this is unsurprising given that the role model intervention was not implemented individually, but rather a graduate was simply sent to various schools to share their experiences.

The two interventions that this thesis suggests build upon the role model intervention, by transforming the role models into mentors who are capable of forming connections with current students, as well as providing them with relevant information. Ultimately, these two interventions suggested are an attempt to more efficiently allocate funds in order to graduate a higher number of girls. The prospect of putting positive educational influences into girls' lives has the chance to be more cost-efficient at the secondary school level, as it requires less money per student and can be implemented using fewer funds.

Conclusion

Traditional development thought, which focuses primarily on GDP growth, has not proven sufficient in creating inclusive growth and preventing the rise of inequality in Cambodia and other developing countries. This realization has created a catalyst for change within development circles. The current shift in the development sector towards a focus on inclusive growth, supplemented by numerous research studies demonstrating the economic benefits of gender equality within the labor market, has led to a more integrated effort to assist those who have previously been excluded from the benefits of economic development. The most overlooked individuals, females and especially those living in rural areas, are increasingly becoming the focus of governments and other organizations that aim to expand the opportunities available to these groups. Education offers one way of addressing this.

Though many studies have been conducted on the effectiveness of educational intervention programs, studies aimed at interventions that target primarily females are rare. Conditional cash transfers are one example of an educational intervention program that has been met with well-documented success, though less is known about the most important factors driving the success of CCTs and the extent of the effect on female students. While CCTs have been increasing in popularity due to their success in Latin America in the 1990s, it is still unclear how CCTs can affect students beyond improving attendance for the duration of the scholarship. Due to the financial support of CCTs, families are able to address a wide range of barriers to education, including improving nutrition and health, as well as buying school supplies. The aim of this thesis was to investigate the underlying factors driving the effectiveness of CCT programs, while also taking into account all components of the program to provide a more comprehensive view of its impacts.

The qualitative approach utilized in this thesis was particularly useful in evaluating the effectiveness of the Cambodian Arts and Scholarship Foundation. While quantitative approaches are a useful way to measure the effects of CCT programs on attendance, they have not been able to identify other effects of such programs or understand to which effect various components of CCT programs have on improving educational outcomes for females. Using a qualitative approach enabled such questions to be asked that identified formerly omitted variables, such as influences in the community, which helped identify potentially useful new forms of educational interventions.

The overall findings from the case study revealed that while CCTs are successful in increasing the educational attainment of female scholarship recipients, there are other factors of the program that could be used to inform future interventions. Perhaps the most important factor (other than CCTs) in increasing the number of university-educated women in a community is to provide the communities with female mentors. Though more research is needed, this study concludes that using interventions such as providing young women with a university-educated female mentor or with a career counselor could have widespread effects on a village by increasing the overall number of educated females within the community. Such interventions could serve as a

supplement to CCT programs, or as a cost-effective alternative to reach a greater number of women.

Motivating young women to finish secondary school and attend university may require less funding and resources than generally thought. Though further research is needed, providing girls with knowledge of the opportunities education can offer through a mentorship program with university-educated females may be a valuable and more cost-effective way to encourage these students to stay in school and increase their ambition to learn. Ultimately, educational intervention programs like those discussed in this thesis have the potential to greatly increase the number of university-educated women in Cambodia's labor market, helping to move the country towards greater gender equality, while simultaneously creating more robust and inclusive economic growth nationwide.

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Appendix A: Brief History of Education in Cambodia

This following background provides a foundation to understanding how inequality has been somewhat historically and culturally embedded within the Cambodian education system. The information from this section was taken from several comprehensive historical works (Vickery 1999; Brinkley 2011). The transformation of Cambodian education until today can be characterized by five distinct periods:

Khmer Empire (802 AD - 1431)

The Kingdom of Cambodia has a long history, with the height of its power being during the 12th century, when the Khmer Empire controlled most of Southeast Asia. As one of the longest empires in history, the Khmer Empire certainly had an effect on education. Particularly, Buddhism greatly molded the way Cambodians think about education. From the 13th century, boys were taught to read the scripture by monks, while girls were not taught at all. Perhaps the Buddhist teachings that every individual should accept his or her place in society have been engrained into Cambodian minds and live on even today.

Fall of Angkor (1431 – 1867) and French Protectorate (1867 – 1953)

After the fall of Angkor and the Khmer Empire, both Siam (now Thailand) and Vietnam spent the next four centuries invading Cambodia and battling each other for territory. This never-ending struggle continued until Cambodia signed a treaty with France and became a French protectorate in 1867. As a French protectorate, the first official middle and high schools were built in Phnom Penh in the 1940s. However, the first high schools that the French built in Phnom Penh were, in all likelihood, not made to benefit the majority of Cambodians. The schools were oriented towards educating government officials, with the hopes that graduates would work for the French government in Cambodia. Even today, government jobs are among the highest sought after.

Cambodian Independence (1953 – 1975)

In 1955, a few years after Cambodia declared independence from France, the current King Sihanouk decided to abdicate and created a political party to become the chief of state. After doing so, he implemented domestic reforms, such as creating many schools and universities. However, the school system still generally looked as it did centuries

ago and qualified teachers could not be found. After King Sihanouk was forced out of office by a military coup of the Social Republic Party, he joined forces with the underground Communist party who called themselves the Khmer Rouge. Together they formed the National United Front of Kampuchea and overtook Phnom Penh in 1975.

Khmer Rouge (1975 – 1979)

The Khmer Rouge has been said to be the most brutal regime in history, having killed over 2 million Cambodians. In their five-year reign of terror, the Khmer Rouge specifically killed almost every educated person in Cambodia, leaving the country with no teachers and no infrastructure to rebuild. Finally, in 1978, Vietnam invaded Cambodia and took Phnom Penh with little effort by 1979.

Vietnamese Rule and Hun Sen's Regime (1979 – present)

The Vietnamese government installed Heng Samrin as the Cambodian government leader, who was a long-time member of the Cambodian Communist party. The Vietnamese also played a large role in the newly established Cambodian government until they withdrew in 1989, especially in the schools. Schools had pictures of communist leaders such as Joseph Stalin and Ho Chi Minh and socialist courses on Marxism were taught.

In 1985, former Khmer Rouge member Hun Sen was chosen by Vietnam to lead Cambodia and he continues to hold this post even today. His time as Prime Minister has been characterized by authoritarian rule and an extremely corrupt regime. However, it has been under Hun Sen's rule that education has been allowed to begin a transformation. Under the various kings and the Khmer Rouge, and even the Vietnamese puppet regime, no NGOs or likeminded organizations were allowed in Cambodia. Today, now that the government is more open to international cooperation, there are numerous NGOs working in rural areas to bring education to Cambodian children. In fact, these organizations seem to be the driving cause of educational change and transformation. Although education has changed a great deal over the last centuries, it will need to continue to transform in order to be more inclusive towards women.

Appendix B: Svay Rieng Provincial Information

The evaluation was conducted in Meun Chey and Duon Sor Communes, both of which are located in Svay Rieng Province (as indicated by the blue star below).



Source: United Nations, 2004. Cambodia. Map No. 3860 Rev. 4. New York: Department of Peacekeeping Operations.

Svay Rieng Overview	
Population (2011)	500,275
Number of communes (2011)	80
Number of villages (2011)	689
Number of primary schools (2013)	261
Number of secondary schools (2013)	73
Schools without water supply (2013)	114
Schools without latrine (2013)	126
Total Male Enrollment (2013)	58,168
Total Female Enrollment (2013)	51,482

Source: Cambodia Ministry of Education, Youth and Sport, 2014. *Education Statistics & Indicators*. Phnom Penh: Kingdom of Cambodia.

Appendix C: Guiding Questions for CASF Evaluation

Questions for the evaluation were designed to identify the barriers to education and other factors contributing to keeping girls in school, as well as to understand the strengths, weakness and impact of the CASF program in the last 15 years. The below questions were used as a guide for conducting interviews, and thus are not an exhaustive list of all questions asked.

Questions for CASF Students and their Parents

1. *Parent question:* What is your opinion on the selection process for CASF scholarships? Do you think the selection of scholarship recipients is fair? Why or why not?
2. *Student question:* Have there been any changes in your life since receiving the scholarship? What changes have occurred?
3. *Student question:* Thinking about how you felt when you were 10 years old, what kind of jobs did you think you would have when you grew up? How has that changed?
4. *Student question:* Do you feel that you are treated differently in your family or in the village because of your scholarship? How?
5. *Parent question:* In your opinion, how do others view CASF students?
6. *Parent question:* Do you think CASF students are treated differently? Why or why not? How?
7. *Student question:* Do you know any of the CASF students who have graduated from university? Have you talked to any of them recently? How is your relationship with them? Have they influenced you in any way?
8. *Parent question:* Is there anything else that CASF could do to help keep girls in school in this area?
9. *Parent question:* What has been the impact of more educated women in this one community? Has the community changed in any way because of this? How?
10. *Parent question:* Is there anything else you would like to share with us about CASF?

Questions for Community Leaders

1. Talk about the decision families make in your commune about whether or not to keep their daughters in school.
2. What factors encourage girls to attend school?
3. What prevents girls from attending school?
4. Have attitudes towards education changed over the past 10-15 years? How?
5. In your opinion, is there an increased social pressure to keep girls in school as enrollment numbers rise?

6. Do you think the number of female graduates in the communes has changed in the past few years? If so, what impact has this had on the community?
7. Are the educational and career trajectories of CASF students different from their counterparts? How so?
8. What roles do CASF graduates play in their communities?
9. Does the CASF program have any negative effects on families? On the community? Explain.
10. Is there anything else that CASF could do to help keep girls in school in this area? Apart from what CASF might do, what else needs to be done to help girls complete their education?

Questions for Community Members with no CASF Affiliation

1. Talk about the decision families make in your commune about whether or not to keep their daughters in school.
2. What are the benefits and drawbacks of keeping girls in school?
3. What factors prevent girls in the village from attending school?
4. What factors enable girls to attend school?
5. Have you seen any changes over time?
6. Do you know who has been given scholarships? Do you understand the criteria and selection process? Do you think this process is fair?
7. Do you think the number of female graduates has changed in the past few years? Do you think this change has any impact on the community? Why? How?
8. Does the CASF program have any negative effects on families? On the community?
9. Is there anything else that CASF could do to help keep girls in school in this area?
10. Do you have anything else you would like to say? Are there questions you think we should ask, that we have not asked?

Questions for Parents of Former CASF Students

1. How has having a daughter with an education impacted your family?
2. What kind of jobs did your daughter aspire to before CASF? Did that change? How?
3. What is your daughter currently doing?
4. Was your CASF student treated differently in your family? In the village? How?
5. What has been the impact of more educated women in this one community? Has the community changed in any way because of this? How?
6. How did you find out about applying for a CASF scholarship?

7. Did you understand the criteria for selection? Did you think the selection of scholarship recipients was fair? Why or why not?
8. What about the CASF program works well? What could be better?
9. Is there anything else that CASF could do to help keep girls in school in this area?
10. Is there anything else you would like to share with us about CASF?

Questions for School Administrators and Teachers

1. What factors encourage girls to attend school? What prevents girls from attending school? How is the decision different between boys and girls?
2. Have attitudes towards education changed over the past 10-15 years? How?
3. Do you think that the increasing number of girls completing their high school education has any impact on the community? How?
4. How are the educational and career trajectories of CASF students different from their counterparts?
5. What role do CASF graduates play in your community?
6. What is your opinion about the CASF scholarship program?
7. What about the CASF program works well? What could be better?
8. Does the CASF program have any negative effects on families? On the community? Explain. Is there anything else that CASF could do to help keep girls in school in this area? Apart from what CASF might do, what else needs to be done to help girls complete their education?
9. Have there been other scholarship or education programs in this area at the same time as CASF? If yes, is there any overlap, reinforcement, or negative consequences?
10. Do you have anything else you would like to say? Are there questions you think we should ask, that we have not asked?

Questions for the Education Coordinator

1. What do community members think about the criteria and application process? What comments have you heard?
2. Are CASF students treated differently? Why or why not? How?
3. What about the CASF graduates? How is the relationship between girls who have graduated and current students? What about girls who are not in the program? What roles do past scholars play in their community?
4. What has been the impact of more educated women in this one community? Has the community changed in any way because of this? How?
5. How do you know when a CASF student is having difficulty in school? What do you do/what can you do?

6. Do you generally get the info you need from schools in order to monitor grades and attendance of students?
7. What about the CASF program works well? What could be better?
8. Does the CASF program have any negative effects on families? On the community? Explain.
9. Is there anything else that CASF could do to help keep girls in school in this area? What else should CASF be doing to promote education?
10. Have there been other scholarship or education programs in this area at the same time as CASF?

Questions for Current University Students

1. How did you find out about applying for a CASF scholarship?
2. Have there been any changes in your life since receiving the scholarship? Which ones? How has your life changed since receiving the scholarship?
3. Thinking about how you felt when you were 10 years old, what kind of jobs did you think you would have when you grow up? Has that changed? How?
4. Do you feel that you have been treated differently in your family or in the village because of your scholarship? How?
5. When you were in school in your village, did you know any of the CASF students who had graduated from university?
6. How was your relationship with other CASF students or graduates?
7. Did your relationship with other CASF students influence you in any way?
8. How often did you meet with the education coordinator? Do you think her role should be changed in any way?
9. What do you like about the CASF program? What could be better?
10. Are there questions you think we should ask, that we have not asked?