

**2013**

**CommunitiWorks: Baseline Assessment  
and Recommendations**



**TEXAS A&M**  
UNIVERSITY

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# Memorandum of Understanding

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## *CommunitiWorks and the Bush School of Government and Public Service*

Wednesday, April 18, 2012

Client: CommunitiWorks

Consultants: George Bush School of Government and Public Affairs

Faculty Supervisor: Dr. Leonard Bright, Associate Professor

Time Frame: September 2012 to May 2013

## Background

CommunitiWorks (CW) is an internationally focused 501(c)(3) nonprofit organization that seeks to catalyze community development by facilitating investments in community-based microfinance and education. CW is the liaison for investments that support small business development with the provision that the recipients in these funded enterprises commit to educating their children at either government schools or alternative educational programs monitored by CW. A widely accepted school of thought is that socioeconomic growth can best and most quickly be accomplished through infusions of money that support programs crafted by experts in the field. Most of this financial and programmatic support is from the "top-down," that is, governed and implemented by the donors ostensibly for the benefit of the recipients. Yet true change cannot be imposed from the top down; it must be embraced from the ground up. Community-based organizations, established indigenously by local leaders who understand the distinctive problems of their region and having a clear interest in their resolution, provide the best chance for long-term economic change that will benefit local and regional society.

Moreover, because they are part of the social fabric in their home communities, such organizations have a far greater likelihood of sustainability than solutions imposed from outside. From this approach, lasting socioeconomic change can not only issue, but stand to last. CW will implement this program in Cambodia during the summer of 2012.

## Statement of Work

CW requires assistance in its efforts to evaluate the impact of their microfinancing strategies on their community recipients in Cambodia. Because of its expertise, the George Bush School of Government and Public Affairs, Texas A&M University has been selected to provide the necessary assistance. Given the recent implementation of CW Cambodia program, this project must be viewed from a multi-year perspective. Assistance will be required over a number of years. The Bush School is committed to providing assistance through year-long capstones. Hence, the purpose of this project is to recommend strategies for evaluating the impact of CW's community-based financing strategies in Cambodia. This project will provide the foundation for comprehensive evaluations of CW's efforts in Cambodia in near future. The following are the stages of this 2012-2013 project and proposed timelines.

## Stage 1: Problem Structure (September-October 2012)

Explore the drivers of Cambodia's socioeconomic problems for the purpose of creating a clear structure of the issue. This will involve an exhaustive literature review of the history and socioeconomic conditions of Cambodia. Interviews of Cambodians (and other subject experts) will likely be conducted.

## Stage 2: Program Logic Model (October-November 2012)

Explore the community-based financing strategies used by CW for the purpose of understanding its logic. This will involve an investigation into specifics of how CW's strategies are believed to improve the socioeconomic conditions of the community recipients. This will likely involve comparisons of similar strategies used in other contexts. Interviews of subject experts and literature reviews will be conducted.

## Stage 3: Evaluation Strategies (November-December 2012)

Develop evaluation strategies, measurements, and benchmarks that should be employed to assess the outputs and impact of CW strategies in Cambodia (given the rationale of the program and the structure of the problems). Measurements will be developed for a variety of indicators such as socioeconomic growth, education improvement, stable funding for established activities, diversity of funding sources, and types, indigenous leadership, capacity to network, and community acceptance of program. This will involve an exhaustive review of available literature and indicators.

## Stage 4: Human Subject Review (December 2012-February 2013)

Apply for approval of research design from Texas A&M Human Subjects Review Board.

## Stage 5: Year 1 Monitoring Report (February-April 2013)

Gather data on the initial progress that CW's strategies are having on the recipients of the investments at year 1. This will involve survey collection, and data collection, as well as travel for 2-3 students to visit Cambodia for firsthand interviews and surveys of the community-based organizations.

## Stage 6: Present Results & Recommendations (April 2013)

Present results of the project to CW and Bush School community.

# Estimated Expenses

The following is a summary of the estimated "out of pocket" expenses:

International Travel (3 students @ \$2000 airfare+\$1000 each)	\$ 9,000
Domestic Travel (meals, lodging, airfare, rental car, gas, etc.)	3000
Printing	500
Books/Supplies	500
	<hr/>
	\$13,000
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# Executive Summary

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CommunitiWorks (CW) is a nonprofit organization which seeks to catalyze development through community-based microfinance. In collaboration with a capstone team of graduate students led by Dr. Leonard Bright of The George Bush School of Government and Public Service, CW seeks to establish a baseline evaluation of communities outside of Phnom Penh, Cambodia which will provide the foundation for comprehensive future evaluations of CW's intervention efforts. This report aims to outline the conditions in five communities, describe the intervention plan laid out by CW and provide strategies for program implementation, evaluation and organizational success. The report contains four sections: Problem Structuring, Logic Model, Baseline Strategies, and Data Analysis and Recommendations.

In problem structuring the team reviews Cambodian history, economy, education, and health to assess standards of living and identify major problems and causal relationships. A needs assessment reveals Cambodia's troubled history has impacted all areas of recent development. Healthcare and education sectors need a major overhaul to overcome the negative impacts of the Khmer Rouge Regime to provide quality services to Cambodian citizens. Based on the history and present conditions, the capstone team created a logic model report to present a log frame model to guide future evaluations and present a logical flow of CommunitiWorks planned interventions. Through community based microfinance and reinvestment in education, health and infrastructure, CW intends to impact the quality of life and psychological wellbeing in the communities. The expected outputs and outcomes of the interventions are mapped to reflect CW's goals.

CW has identified five potential communities in impoverished areas surrounding Phnom Penh to partner with nongovernmental organizations and establish its proposed model to address the most distressing issues in a sustainable manner. The capstone team conducted Household Surveys to document living conditions, education, and income and health characteristics of the proposed communities at the household level to establish a baseline for future evaluation of the impact of CW's program and planned activities. The survey methodology and framework is documented in the baseline strategies report.

The Data Analysis report discusses the major findings of the surveys and recommendations for CW's activities and future evaluations through evidence from Household Surveys, observations records and the surveyors' personal reflections on the ground level conditions. The team finds:

- Healthcare provision is limited in the surveyed communities, and this reflects the most urgent need of community members. The team recommends CW focuses on healthcare first and foremost.
- Finance is a primary barrier to access the healthcare services, and for this purpose the team recommends CW to identify a healthcare partner who can meet the needs of the target communities.
- Cambodian Volunteers for Community Development (CVCD) schools provide education services in the surveyed communities where few public schools exist. Define the relationship with CVCD which will aid the achievement of CW's educational goals.
- CW should implement controls and systems of accountability in order to improve education delivery.
- CW must clearly define the loan process, rate, and delinquency policies for its microfinance model to encourage donor support and successful implementation.

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# An Overview of Program Evaluation

Program evaluation is a complex process of determining the impacts and outcomes of an organization. According to Rossi, Lipsey, and Freeman (2004, 3) program evaluation distinguishes “worthwhile social programs from ineffective ones” and suggests revisions or new approaches to achieve intended outcomes. Conducting a program evaluation involves three main steps. Our team, an objective party, must first determine the problems and issues a program wishes to address by examining the macro and micro issues involved. In the problem structuring portion of this report, our team will examine these issues in more detail. In subsequent reports, we will then develop a logic model to demonstrate how the activities of a program relate to the original problem. The logic model develops a clear understanding of the inputs, outputs, activities, outcomes and impacts and also includes any assumptions we have made. Finally, we will determine the best evaluation strategies to address the problem, conduct an evaluation of CommunitiWorks, and make recommendations for CommunitiWorks’ future operation.

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# CommunitiWorks

## *Organization Overview*

### History

CommunitiWorks (CW) is a nonprofit organization founded by Sandy Cohen and based in Dallas, Texas. Cohen began the organization in 2004 with the goal of stimulating economic development in India, utilizing her experience and expertise in banking to facilitate the CW model for implementation. As the founder of Concorde Bank in Dallas as well as several other businesses and social ventures, Cohen traveled overseas and her experiences inspired her to move forward with her first international project. To put her ideas into action, Cohen teamed up with Gregory Fields, founder of Philanthropy Directions International and nonprofit consultant. Fields' experience in organizations like the Global Fund for Children complemented Cohen's experience in banking, and the two have served as leaders of CommunitiWorks since its founding in 2004. Working initially in small communities of India, CW saw great success in their pilot period, and decided to replicate their successful model elsewhere in the region. Now gaining traction and preparing to launch in Cambodia, Cohen also hopes to bring the program to Laos and eventually Myanmar.

### Program Structure

The mission statement of CommunitiWorks states they seek to provide "education, microcredit, health care, and vocational training in impoverished areas by creating a replicable and sustainable model that works with communities to facilitate positive and permanent social and economic transformation." This community-based microfinance model seeks to bring investment into impoverished areas to create new economic activities within a community,

which in turn stimulate other education and health initiatives. With funds managed by a community council of representatives, the model seeks to incorporate different members of the community into the process, rather than using a top-down approach from foreign investors. In these beginning stages of the Cambodia project, Cohen and Fields have targeted specific communities to engage and have hired Cambodia Native Salath Lor to serve as the In-Country Executive Director. Working with existing partners in the region, this In-Country Executive Director will recruit appropriate council members to represent a variety of sectors pertinent to the targeted communities. In addition, CW will partner with Cambodian Volunteers for Community Development (CVCD), a Cambodian NGO focused on bringing education into poor communities, to facilitate the education aspect of the program. CVCD is already well-established in the target communities, and is a key network to leverage in the initial implementation of CommunitiWorks unique model. CW is in the process of identifying a healthcare partner. The emphasis on the community council distinguishes the CW model from other microfinance models. As a result, CW allows community leaders to allocate and invest in what the community deems necessary.



# **The State of Cambodia: A Brief Report of Problems and Opportunities**

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*Problem Structuring Report*

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## Abstract

The Problem Structuring Report reviews reports, data, and academic literature to determine the current situation of Cambodia. The country's history with the Khmer Rouge has hindered economic and political progress which has, in turn, impacted daily lives for Cambodians. The textile and tourism industries primarily support the country's economy. However, the economic downturn affected both of these sectors negatively. Economic development is further affected by a lack of secure property rights enforcement, high cost of energy, and the limited access to capital.

Research also shows that many Cambodians receive inadequate healthcare and education services. Children must often choose between obtaining an education and working to supplement family income. As a result, many do not complete secondary school. Females especially face obstacles in obtaining an education because they must often care for younger siblings or work outside the home. Many Cambodians do not have access to quality healthcare due to a lack of or severely limited infrastructure. Additionally, the sex trade runs rampant in the nation, compounding female health issues.



# Problem Structuring

The first step of the evaluation process must assess the problem and determine causal relationships. To accomplish this, experts claim that evaluators should consider questions regarding the conditions or problems a program seeks to solve in order to develop a need for the intended program (Rossi, Lipsey, & Freeman 2004, 55). This assessment should seek to determine the cause, size, scope, and distribution of the problem and should be the first step in restructuring an existing program or organization or forming a new one (Rossi, Lipsey, & Freeman 2004, 55). CommunitiWorks (CW) seeks to address the issues of poverty and quality of life in Cambodia. The first section of this report will provide an overview of Cambodia. It will then look at the major issues which contribute to poverty and quality of life standards. For a visual representation of the causal relationships in Cambodia as they relate to poverty, please see Appendix C.

## Cambodia Overview

### Geography and Demographics

Located in Southeast Asia, Cambodia borders Laos, Thailand, and Vietnam. The 69,898 square mile country consists of primarily flat, low plains with mountainous terrain in the northern and southwestern regions. The majority of Cambodians identify themselves as Khmer, descendants of the Angkor Empire that spanned most of Southeast Asia between the 10th and 13th centuries. The Cambodian population stands at 14.9 million as of 2012, with approximately 1.5 million of those people concentrated in the capital of Phnom Penh. The majority (96.4 percent) of the population claims Buddhism as their religion while small pockets of Muslims (2.1 percent) and other religions (1.5 percent) exist throughout the nation. The median age for Cambodians is 23.3 years, with the majority (64.1 percent) of the population being between 15

and 64 years of age. With an average life expectancy of 63 years, a lack of adequate medical treatment and several aggressive infectious diseases contribute to the short life expectancy when compared to other Southeast Asian nations.

## Cambodian Government and Politics

Cambodia's troubled history and its current political landscape shape the economic, education, and healthcare issues the nation currently faces. King Norodom Sihamoni and Prime Minister Hun Sen lead the multi-party democracy under a constitutional monarchy. Cambodia has witnessed a series of different rulers since obtaining French protectorate status in 1863 that later led to annexation by French Indochina in 1887. After a period of Japanese occupation during World War II, Cambodia gained independence in 1953. Shortly after this the country entered a long period of turmoil which ended in the communist takeover of the Khmer Rouge in 1975. During this time, more than 1.5 million Cambodians died due to starvation and mass executions. Beginning in 1978, the Vietnamese occupied the country for ten years, which eventually resulted in a civil war lasting thirteen years (The CIA World Factbook. 2012; The Heritage Foundation 2012). Fighting finally ended under the Paris Peace accords, a "comprehensive political settlement aimed at ending the tragic conflict and continuing bloodshed in Cambodia." The signing of the agreement took place in 1991, compiled by 19 separate governments, it mandated democratic UN-sponsored elections starting in 1993. Despite this, factional fighting continued until the remaining members of the Khmer Rouge surrendered in 1999 (The CIA World Factbook 2012; United Nations Human Rights 2012).

Politics has continued to be an area of conflict among the people. Fortunately the most recent election in 2008 remained mostly peaceful compared to the 2002 election. Opposition parties continue to raise concerns about the monopolies held by the Cambodian People's Party over the media, police, and the military. The Heritage Foundation cites voter fraud and intimidation allegations as reasons for a 30-40 percent decrease in voter turnout from the

previous year's in the 2007 commune (local) elections (The Heritage Foundation 2012; Um 2008). Local and national elections will take place in 2012 and 2013, with an expected return of the Cambodian People's Party as the leading political party due to the ongoing intimidation and election fraud (Political & Economic Risk Consultancy, Ltd. 2012).

Cambodia's current government under the Cambodian People's Party has corruption and legal issues that make efficient governance difficult. The judicial system is heavily controlled by the executive branch of the government and is known for inconsistent rulings and general corruption. Property rights are largely unclear; many landowners have no proof of ownership due to a faulty land title system that stems from the destruction of property records under the Khmer Rouge (Political & Economic Risk Consultancy, Ltd. 2012; The Heritage Foundation 2012). The current laws do not properly protect private property, although foreigners recently gained concessions to help secure their property rights within the country (The Heritage Foundation 2012).

## Economics and Industries

The Cambodian economy continues to be considered low income as of 2011, with a GDP of \$12.88 billion and a net official development aid (ODA) of \$737 million from other countries in 2010 (OECD 2012; World Bank 2012b). Despite this, Cambodia's government maintains fiscally sound tax policies that keep inflation low and public debt below 30 percent of the GDP. The country's budget remains balanced despite the increase in government spending to 18 percent of the total domestic output (TDO). Corporate and income tax rates top out at 20 percent, with additional value added (VAT) and excise taxes to help support the increased government spending (Heritage 2012). Cambodia's economy primarily relies upon the agriculture, tourism, garments, and construction industries (Economic 2008). Until recently, Cambodia's economy grew by 10 percent per year on average, with large expansions taking place in these major industries. The recent global economic downturn hurt Cambodia's export

market for clothing, timber, rubber, rice, fish, tobacco, and footwear, which caused a decrease in construction due to a lack of available credit (Central Intelligence Agency 2012). The Cambodian government continues to support a private sector economy and greatly encourages foreign investments. The primary economic goal for Cambodia remains strengthening core industries while expanding agriculture and manufacturing prospects (Political 2012).

A majority of the poorest sectors of the Cambodian population rely solely on agriculture, mainly rice, to meet their financial needs, which leads to "highly volatile incomes" that can fluctuate widely depending on crop outputs (Yelten et al. 2006, 3). Without improved irrigation and natural resource management, Cambodian farmers will be unable to achieve a sustainable way of life, perpetuating the cycle of poverty in the country (Economic Institute of Cambodia 2008).

## Environment

Cambodia's unstable environmental conditions greatly influence the nation's overall development. The country succumbs to several natural hazards: monsoon rains and flooding that last from the rainy season of June to November, as well as droughts during dry seasons. In addition to these natural hazards, Cambodia suffers from a variety of environmental issues related to its natural resources: strip mining, illegal logging, soil erosion, over fishing, and a lack of potable water for residents (Central Intelligence Agency 2012). The continued deforestation by logging companies is already having serious effects on the natural environment by interrupting natural habitats and leading to compromised coastal environments. Dangerous and unregulated fishing practices like dynamite fishing and salt farming threaten the coastal environments, negatively impacting the livelihoods of those who depend on the ocean wildlife to survive (World Bank 2012a).

# The Issue of Poverty

Cambodia's history, government, economic structure, and environment all play major roles in the nation's current economic condition, one in which many people live in poverty. Although no universally accepted definition of poverty exists, for the purpose of this paper, we will use the United Nations' (UN) definition. The UN looks at two aspects of poverty, absolute poverty and overall poverty. Absolute poverty is "a condition characterized by severe deprivation of basic human needs, including food, safe drinking water, sanitation facilities, health, shelter, education and information. It depends not only on income but also on access to services" (Gordon 2005). This definition encompasses the basic needs for someone to survive. The second and broader definition explains "overall poverty." Attendees at the World Summit for Social Development in 1995 (Gordon 2005) defined overall poverty as:

"[the] lack of income and productive resources to ensure sustainable livelihoods; hunger and malnutrition; ill health; limited or lack of access to education and other basic services; increased morbidity and mortality from illness; homelessness and inadequate housing; unsafe environments and social discrimination and exclusion. It is also characterized by lack of participation in decision-making and in civil, social and cultural life. It occurs in all countries: as mass poverty in many developing countries, pockets of poverty amid wealth in developed countries, loss of livelihoods as a result of economic recession, sudden poverty as a result of disaster or conflict, the poverty of low-wage workers, and the utter destitution of people who fall outside family support systems, social institutions and safety nets."

Considering these definitions, poverty becomes more than an issue of incomes. According to the UN Millennium Project (2006, E3-1) over 1 billion individuals in the world lived on less than one dollar a day and another 2.7 billion had to fight to survive on less than two dollars a day. In addition, a total of 114 million children never receive a basic education; 584 million women are considered illiterate, and some impoverished nations have less than half of the children attending primary schools (Millennium Project 2006, E3-1). Poor healthcare also considerably contributes to poverty. According to the Millennium project (2006, E3-1) preventable diseases such as malaria and pneumonia kill as many as 11 million children worldwide.

The government of Cambodia recognizes that poverty of this magnitude is an issue. In 2006, the government drafted and approved a National Strategic Development Plan (NSDP). According to the NSDP, as of 2004, 34.7 percent of the people live in poverty, with 90 percent of them from rural areas (2006, viii). We do recognize that some experts have questioned poverty numbers as they can be politically motivated and may not be entirely accurate (Wagle 2010, S178).

These statistics clearly point to three indicators that directly contribute to poverty: economic, education and healthcare indicators. In addition there are secondary issues which may have an indirect effect or contribute to the primary indicators affecting poverty: environmental issues including clean air and water, poor sanitation, lack of infrastructure, unenforced property rights, and access to capital.

## Economic Development

Research has shown that a connection exists between economic situations and poverty, but there is no consensus on how to raise someone out of poverty. Dr. Wagle argues that to raise someone out of poverty, their wages need to increase (2010, S174). Dr. Eric Norton argues that improving the income of the poor has greater effects on an economy than improving

the income of the wealthy (2002, 263). According to Roemer and Gugerty (1997, i) small increases in GDP can have a substantial impact on the poorest sections of the population. To be effective, employment opportunities must include unskilled and semiskilled labor (Wagle 2010, S175).

The economy in Cambodia is relatively small on the global scale. According to data collected by the World Bank (PovcalNet), the mean income in 2008 was \$78.11 per month and the poverty line for Cambodia was \$38.00 a month. According to the CIA World Factbook (2012), the poverty line has remained the same since 1994 while incomes have risen over 38 percent. In terms of per capita GDP, Cambodia currently sits at \$2200 per year, ranking 187<sup>th</sup> out of 227 countries (2012). In addition, the CIA World Factbook (2012) breaks down GDP into three groups: agriculture accounts for 30 percent of GDP, industry accounts for 30 percent, and the services sector accounts for 40 percent. According to Caroline Hughes (2008, 69), Cambodia has made economic strides in recent years: GDP increased 13 percent in 2005, 10.4 percent in 2006 and 9 percent in 2007. This was largely due to garment exports. However, due to global economics and competition from neighboring countries, exports have not been as strong recently.

### Sectors of the Economy

The Cambodian economy relies heavily on four sectors: agriculture, textiles, construction, and tourism. Each sector faces unpredictability and inconsistency in production. According to the 2004 Cambodian Economic Report (Chandararot et al. 2004, vi), agriculture suffers from a lack of infrastructure including roads and irrigation, which result in a fluctuation in yields. Farmers need new technology and techniques which are currently available and practiced in more developed countries. The textile industry suffers because it must compete with the manufacturing capability in China and Vietnam, both of whom can produce clothing at a 25-30 percent cheaper cost (Chandararot et al. 2004, vi). One of the most costly components of

the garment industry is the cost of electricity. Joosung J. Lee (2011, 569-570) claims the rate in 2011 was 19 cents per kilowatt hour, which was "nearly four times higher than in Vietnam (5 cents) and China (4 cents)." She attributes this disparity to the presence of government energy subsidies in Vietnam and China. Even with these difficulties, textiles comprise about 15 percent of GDP, and new construction was about 6 percent of GDP (Chandararot et al. 2004, 3).

### Infrastructure

The condition of the country's infrastructure negatively impacts to economic development. The lack of infrastructure becomes clear upon examination of the average small businesses in Cambodia. A bulk of the population is employed in small, often family-owned businesses. According to National Institute of Statistics (2009), the country boasts 376,761 establishments which employ 1,469,712 people. Each establishment employs 3.9 people on average, while only 798 establishments boast more than 100 employees. There are 28.1 businesses for every 1000 people. In addition, females make up 57.4 percent of the working population (National 2009, 1). Businesses employing one or two people totaled 70 percent of all businesses and females own about half of all businesses (National 2009, 2-3). Rural areas host two thirds of all businesses in 2009 and over 96 percent were privately owned (National 2009, 2-3). The disparity in average business size, when compared to developed nations, can be attributed to the lack of transportation networks and limited marketing capabilities outside of the local community.

### Capital

Access to capital has also been an issue in Cambodia. According to Chandararot et al. (2004, 13-14), in 2003 the interest rate for a loan averaged 18.5 percent, much higher than in other Asian countries. In neighboring Thailand, the interest rate was 5.4 percent, and in Vietnam, the rates were around 9 percent (Chandararot et al. 2004, 13-14). Several factors affect access to capital. Lack of lending institutions in rural farming communities and lack of



collateral prevent many farmers from acquiring equipment and seeds that would help them increase yields. One way to establish collateral and increase access to credit is to have strong private property rights protections (Markussen 2008, 2278). Lenders are willing to lend when money is backed by capital, dividing risk between the borrower and the lender.

### Property Rights

The lack of firm property rights, the threat of being pushed off their lands, fluctuating crop prices, and unpredictable weather patterns make farmers apprehensive to accept loans when they are available (Chandararot et al. 2004, 27). According to Caroline Hughes (2008, 70-71), the current economic growth has disproportionately benefited urban communities, often at the expense of the poor and rural farmers. Many farmers are unable to secure titles to their land, and the government often forces them to evacuate land they have farmed for decades. Politicians have corrupted the approval process of titles and often issue land rights to the highest payer, not the rightful owner. Researchers show that in Cambodia, when the government issues land ownership documents to farmers, property and crop values increase (Markussen 2008, 2277). When property rights are established and protected, farmers have a greater incentive to invest and increase productivity as they have greater assurance they will reap the rewards of their labor (Markussen 2008, 2078). Still, concerns exist among land owners that even with formal property rights, there will be a lack of infrastructure and a government body unwilling to protect those rights (Markussen 2008, 2294). Rural Cambodia especially lacks this infrastructure and governmental corruption often undermines property rights.

### Global Economic Crisis

The economic crisis has predominately affected the textile and the tourism industries. Joosung J. Lee (2011, 572) claims that the United States accounts for 70 percent of Cambodia's textile exports. Since the 2008 economic crisis, exports have decreased from \$658

million to \$414 million. In addition, between September 2008 and March 2009, 63,000 textile workers lost their jobs. Finally, the tourism industry is a volatile, yet vital, part of the economy and has been hindered by the current global economic crisis (Bauer & Thant 2010, 6). Tourism began declining in October 2008, causing some luxury hotels to close and others to lay off workers (Tong 2010, 141). While tourism has declined recently, it had increased from 1,000 visitors in 1980 to over 1.4 million in 2005 (Chens et al. 2008, 64). War in Cambodia was the primary reason for lack of tourism pre-1980.

## Cambodia's Education Sector

As a result of Cambodia's emergence as an independent nation from the French Protectorate, much of Cambodia's current situation reflects its history under French rule. The education sector is no different. The French originally underprovided education to Cambodians, which led to an undertrained and illiterate workforce (Library 1987). The Khmer Rouge regime closed most schools to use them as barracks or storage facilities and rejected previous curriculum for its imperialistic qualities (Ayers 1999, 206). The Kingdom of Cambodia has made great strides to rectify the educational environment and improve the job market. However, shortfalls still exist.

### Structure

The current level of education provision flows out of the sector's structure. The Ministry of Education, Youth, and Sports (MoEYS) revolves around a central authority in Phnom Penh. This office hands down general curriculum and administrative strategies to the lower units. The 24 provincial/municipal authorities oversee upper secondary schools while the 193 district offices oversee the lower secondary schools. Finally, the bottom rung of the education sector is the schools themselves. As of 2004, the education sector funded 6,180 elementary schools and only 800 secondary schools (National Strategic Development Plan 2006, xviii). Ultimately, this horizontally-structured organization manages approximately 95,000 teachers who educate

3,400,000 students (Ministry 2012). This total accounts for an enrollment and attendance rate of 65.3 percent for all youth eligible for primary education (UNICEF 2005).

### Embedded Problems

Many factors restrict the progress for public provision of education. Perhaps the greatest barrier to society at large rests in the fact that approximately 2,448,572 adults, or 26.1 percent of the adult population, are illiterate (World Bank 2013a). Because the Khmer Rouge eliminated much of the educated population, illiteracy persists as an ongoing issue. Of this illiterate population, females comprise 68.27 percent (World Bank 2013a). Such an illiteracy rate, and its gender imbalance, reflects on the gender parity index of the country. Gender parity is a measure "defined as the value of a given indicator for girls divided by that value for boys" (UNESCO 2012, 12). In the area of education, analysts arrive at this number by dividing the enrollment and attendance rate for girls by that for boys. The closer this number falls to 1, the closer the country is to achieving gender parity. Ultimately, the United Nations classifies GPI indexes between 0.97 and 1.03 as having gender parity. Cambodia has a 0.98 GPI for primary education and therefore experiences parity between male and female attendance in the lower grade levels (UNICEF 2005). However, the country's primary enrollment and attendance rate ranks as the second lowest among East Asia and Pacific countries (UNICEF 2005). As students advance in grade level, the female enrollment rate consistently lags behind that of males (Velasco 2004, 38). In her research on gender equality in Cambodia, Ms. Velasco asserts that many factors can contribute to the enrollment gender gap (2004, 40). However, her argument that the lack of educated female professionals in schools may be partly to blame is particularly interesting. In 2004, the World Bank collected the most comprehensive educational data in Cambodia. At the time of this data collection, females comprised 40.88 percent of all elementary school teachers, 31.25 percent of secondary school teachers, and 15.62 percent of instructors in higher

education (World Bank 2012b). Perhaps if more female teachers held positions in public schools, female students would have a greater motivation to continue with their education.

One primary reason girls decide to leave school stems from the need to tend to household responsibilities or work outside the home to contribute to the household income (Velasco 2004, 40). While this tendency may be greater for girls, child labor pulls both male and female students away from the classroom. As of 2004, 86.2 percent of 7-14 year olds were economically active while enrolled in school, and the dual role of laborer and student negatively impacted student enrollment and performance, more so for females than males (World Bank 2012b; Kim 2011a, 496). Females age 15-24 have a literacy rate of 78.89 percent while males in the same age group have an 87.92 percent literacy rate (World Bank 2012b). While these statistics do not necessarily point to a correlation between child labor and lower literacy rates for females, the literature suggests working does influence academic performance. Ultimately, for all school eligible age groups, "children's economic activity rates seem inversely, though non-linearly, related to GDP per capita" (Kima 2011, 497).

Many scholars argue that the government can address issues of parity, child labor, and educational infrastructure by evaluating and re-writing education policy. Kim (2004, 497) posits improved governance will end "the vicious cycle between child labour [sic] and the low levels of educational access and completion..." The United Nations' Educational, Scientific, and Cultural Organization (2012, 19) reports that Cambodia has no compulsory education. Additionally, Education Law in the Kingdom of Cambodia states that students age six and older have the right to nine years of education (Ministry 2012). Despite this government granted right, nearly half of all those who enroll in primary school dropout before sixth grade (Kim 2011b, 417). With a greater push from the national government for increased retention rates, the priority of education will continue to rise within households and throughout society.

The literature also asserts females and males do not have equal opportunity or equal representation through upper secondary education. Velasco (2004, 43) argues the curriculum and texts highlight gender roles traditionally accepted in Cambodian society and do not depict women in professional roles. Such exposure to gender roles in the classroom impacts the gender roles in society at large as these students eventually manage households of their own and perhaps enter the workforce themselves. Professional female presence in the classrooms considerably declines in the upper grade levels (World Bank 2012b). Additionally, for male and female teachers, motivation, qualification, compensation and accountability lags behind that of other benchmark countries (Kim 2011b, 417-23). The Kingdom of Cambodia strives to overcome these governance issues by increasing staff training and capacity, improving educational quality and achievement, and improving access to education for all school-aged children (Sethy 2010, 14). Despite these intentions, the Kingdom of Cambodia struggles to provide education comparable to that of other countries.

Ultimately, the repair of Cambodia's public education sector must happen simultaneously at the grassroots level and within the national government. Citizens, students, and parents need to see the benefit to an education and "in almost every case, greater political will and good governance will definitely make a large difference in expediting the change" (Kim 2004, 503). Education impacts society and the nation's economy, so its provision and governance is essential.

## Healthcare

The average Cambodian is at risk for diseases such as malaria, typhoid, hepatitis A, dengue fever, and Japanese encephalitis. The lack of medical treatment in most communities compounds the issue of a large number of infectious diseases. There are approximately 0.227 physicians per 1,000 people and even fewer hospital beds, which leave many people without adequate medical care, particularly in rural areas (Central 2012). In 2011, the World Health

Organization (WHO) reported 18,045 health care professionals working in Cambodia to serve a population of 14.3 million (World Health Organization 2012a, 3). Of these health professionals, only 2,300 are doctors. The World Health Organization reported the median number of doctors per 10,000 people worldwide to be 16 (World Health Organization 2012b). In Cambodia there is 1 doctor for every 6,217 people. The small number of health care workers is partially attributed to the Khmer Rouge reign in Cambodia when educated professionals, such as doctors, were targets in the genocide.

The war, which lasted for decades, destroyed hospitals and decimated the health infrastructure. Furthermore, hundreds of public hospitals went un-used for years, and qualified professionals moved to private practice to compensate for the low wages offered by the government. Resources were looted from government-funded health care centers, and private practices sprang up, charging whatever prices they pleased for services, which left an inadequate and disjointed sector (Dugger 2006). Moreover, corruption and neglect has plagued the health industry in Cambodia for years. There were no regulations on medical practices until November 2000, and at least half of the clinics and pharmacies are still not certified to practice. Counterfeit pharmaceutical drugs are common, and there are no mechanisms in place to monitor the quality and safety of private service delivery. Pharmacies are mostly private; meaning the price of prescriptions is up to the owner of the practice (World Health Organization 2012a, 5).

### Health Infrastructure and Service Delivery

In 2011, 5.9 percent of Cambodia's Gross Domestic Product was spent on health expenditures. Cambodia has experienced rapid GDP growth, although poverty is still a concern for many. According to the World Health Organization, malnutrition and access to health care are the strongest health-related links to poverty (World Health Organization 2012a, 1). Most causes of morbidity are related to curable and preventable disease. Acute respiratory infection,

diarrhea, malaria, cough, gynecological-obstetric issues, tuberculosis, road accidents, measles, dengue hemorrhagic fever and dysentery are the ten leading causes of death in Cambodia (World Health Organization 2012a, 1). Communicable diseases are the leading cause of death (World Health Organization 2012a, 1).

Cambodians receive health care through a system of mixed delivery. Many seek care from the private sector, comprised of skilled professionals and traditional practitioners who provide remedies and treatments based on cultural beliefs in contrast to the westernized medical practices of the public health sector (World Health Organization 2012a, 2). Public health services are organized into package of activity levels which detail the minimum service delivery for a patient of a government-sponsored health care facility (World Health Organization 2012a, 2). Finally, international NGOs provide a range of services throughout Cambodia, supplementing the crumbling health infrastructure left after the Khmer Rouge era and targeting specific demographic groups like women, the elderly, and disabled. The most widespread methods of service delivery involve government sponsored, performance-based contracting for services for specific demographic groups and health equity funds, which reimburse health providers for services to eligible poor people in the way of food, transportation and other costs related to access.

### Burden of Healthcare – Equity and Cost

Lack of ability to pay is the major obstacle among Cambodia's poorest citizens in accessing health care, but transportation, distance to facilities, knowledge about available assistance, lack of government trust and socio-cultural practices and beliefs limit access to care as well. These inequities affect services to the poor, particularly in rural Cambodia where 85 percent of the population lives. Concentration of public health care services lies in urban areas, so rural residents must seek primarily private care for health conditions. Private care is often three times more expensive than public provision (Van Damme et al. 2004, 1). Rural services

are also less likely to provide quality care and sufficient access to necessary medicines (World Health Organization 2012a, 5).

Funding for health expenditures relies heavily on support from external development partners and out-of-pocket payments. In 2008 out-of-pocket payments contributed more than 65 percent of total health expenditures (Kwon 2012, 9). "Cambodia has one of the largest shares of out-of-pocket payments in the Western Pacific Region," according to the World Health Organization (2012, 2). Not only do health issues create out-of-pocket expenditures for families, but they also destabilize income generation (Van Damme et al. 2004, 1). In Cambodia, even relatively small amounts of health expenditures frequently cause indebtedness from which households cannot recover, leading to increased rates of poverty (Van Damme et al 2004, 1).

Overall, quality of both public and private sector services is low. Workforce capability is limited by numbers and expertise. A lack of resources makes coordination across sectors difficult, leaving gaps in care, and heavy reliance on donor funding threatens long term sustainability (World Health Organization 2012a, 6). Lack of access to clean drinking water and poor sanitation facilitates the spread of diseases which rank as leading causes of death. As poor families are forced to sell valuable assets, like their land, to settle health care debts, poverty is increased. Increased poverty is correlated with increased health issues, so the poorest of Cambodia may be easily trapped in a cycle of poverty because of a simple cough.

Cervical cancer is the leading cancer in Cambodia, yet most women are not screened or able to receive treatment. According to a recent study, the prevalence of cervical Human Papillomavirus (HPV) in women is 41.1 percent (Couture et al. 2012, 1). Women with multiple sex partners, like those in the sex industry in Cambodia, risk higher rates of HPV infection, which leads to cervical cancer. Women in Cambodia desperately need immunization and a screening infrastructure to combat HIV, HPV and cervical cancer. The number of women in the



sex industry has grown substantially in the past few years, signaling an urgent need for prevention and treatment methods (Couture et al. 2012, 9).

### Sex Trafficking and Health

Women and children trapped in the sex trafficking industry in Cambodia face beatings, rape and death. In a recent study on trafficked women, almost 30 percent reported their families participated in the decision to traffic them (McCauley, Decker & Silverman 2010, 266). Over one-third of women and girls were forced to perform sexual acts without consent; 30 percent reported sexual abuse, and 10 percent reported being physically beaten (McCauley et al. 2010, 266). Furthermore, these women are deprived of food, movement and medical care. Almost 66 percent of sex trafficked women tested positive for sexually transmitted infections (McCauley et al. 2010, 267).

The popularity of brothels, prostitution, and sex trafficking has caused Cambodia to report the second highest rate of HIV/AIDS in Southeast Asia (Economist 2009). As a result, in 2001, the government adopted a "100 percent condom" use policy to combat the epidemic spreading throughout the country. The law lowered the prevalence of HIV and AIDS from a staggering 2.7 percent in 2003 to 0.8 percent in 2008, near the average for Southeast Asia (Economist 2009). With more than sixty percent of sex workers in Cambodia infected with HIV, the government outlawed prostitution and brothels to stop the health problem at one of its biggest sources (Foreign Affairs 2003). Unfortunately, an unintended consequence of outlawing prostitution is many sex workers do not use or carry condoms for fear of discovery and prosecution. Therefore, the anti-prostitution laws have the potential to undo the progress made on the HIV/AIDS front (Economist 2003).

### Women's Health Effects on Economy

Seventy percent of all women 15 and older participate in the workforce and they comprise 49.4 percent of the total workforce (Ministry 2008, 22). Women who lack access to

healthcare lose productive days in the workforce and income for their families (Potdar et al. 2008, 123). Without access to low-cost health services, women's health issues also result in household burdens including a loss of time for work or taking care of their families, food and expenditures. As keepers of the household, women in Cambodia cannot afford to get sick. Losses in women's productivity traps families in poverty, and disproportionately affects extremely impoverished households as they are less likely to cope with the debt associated with healthcare costs and the loss of productive labor (Potdar et al. 2008, 123).

## Implications for CommunitiWorks

This report highlights several issues surrounding Cambodia's economic and social development. CommunitiWorks must understand as they proceed with instituting programs that they, as a micro-lending organization, should not aim to address all issues hindering the country's development. Given Cambodia's current political situation, CommunitiWorks must take into account the difficulties encountered when dealing with a country still plagued by government monopolies and media suppression. According to their mission statement, CommunitiWorks seeks to "provide education, micro credit, healthcare, and vocational training in impoverished areas" (CommunitiWorks 2012). As a result, CW should focus their efforts upon these four areas.

The economic environment in Cambodia is impacted by numerous factors, including issues that CommunitiWorks will not be able to affect. Despite a short period of economic growth, the global recession has negatively impacted many of the job sectors in Cambodia. In addition, the limited infrastructure, lack of access to capital and insufficient protections of property rights limit potential economic growth. CommunitiWorks may have the greatest impact by offering increased access to capital. Regarding education, CommunitiWorks, through partnerships with nongovernmental organizations, can directly affect enrollment and retention,

literacy rate, and decreased child labor. CommunitiWorks should recognize, however, that the issues of school governance and gender parity are more embedded issues and the microfinance organization may not be able to affect such issues directly. In the healthcare sector, providing access to affordable, quality medical care to Cambodians, especially in rural areas, will decrease the burden of poverty.

## Conclusion

Cambodia, as a developing nation with a troubled history, must consider future progress in the context of the country's history. The country's history has impacted all areas of recent development. Healthcare and education sectors must overcome the negative impacts of the Khmer Rouge Regime to provide quality services to Cambodian citizens. While the economy has grown in recent years and the Kingdom's government has sought to strategically improve the country, major problems still exist. The literature confirms many of the needs that CommunitiWorks seeks to address. The organization has established operations in the impoverished areas surrounding Phnom Penh to partner with nongovernmental organizations to address the country's most distressing issues.

**From Possibilities to Practical  
Solutions:  
Cambodia Community-Based  
Microfinance Project**

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*Program Logic Model Report*

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## Abstract

As CommunitiWorks (CW) implements their program in Cambodia, it is important to link the organization's efforts with expected outcomes. This report provides a detailed breakdown of the CommunitiWorks model, including a series of recommendations. As such, this report outlines the various resources utilized and activities carried out by CommunitiWorks, as well as outcomes and impacts expected as a result of CW's efforts. In doing so, our team translates CW's vision into a program logic model. This logic model displays visually, while the report provides a detailed explanation of CW's program design in Cambodia.

CommunitiWorks is likely to achieve impacts detailed in this report, assuming that we carry out inputs and activities as prescribed in model. A host of external factors, including those identified in the logic model, will impact CW's efforts. We account for these in the external factors section of the report. This model represents our team's best efforts to translate CW's vision into a model for greater understanding and discussion. In light of this, our team outlines several recommendations and specific areas for consideration. It is our goal that this model will provide CommunitiWorks, their partners, and other stakeholders a greater understanding of relationships between planned work and intended results. From here, discussion can emerge about the strengths and weaknesses of the model and provide a path towards a greater understanding about what works in the field of international development.

# Program Logic Models

An effective program evaluation does more than collect, analyze, and present data. It provides program stakeholders with information about and a means to improve programs they operate or fund. The W.K. Kellogg Foundation (2004) contends that evaluations, particularly those utilizing a program logic model, are important learning and management tools which can be used throughout a program's life. Evaluations and the use of logic models can help achieve effective programming and present greater learning opportunities, better documentation of outcomes, and shared knowledge about what works and why.

Logic models involve modeling or simulating real-life in such a way that the fundamental logic becomes apparent (Miller et al. 2000). We accomplish this by showing the causal relationships as they relate to one another. A program logic or similar model may carry different names, including "log frame" in international development efforts. Simply stated, it is a systems approach to portraying the path towards a desired reality. Additionally, a logic model is "a systematic and visual way to present and share your understanding of the relationships among the resources you have to operate your program, the activities you plan, and the changes or results you hope to achieve" (2004). In short, the program logic model is a useful evaluation tool to facilitate effective program planning, implementation, and evaluation. Program logic models provide a number of benefits (Milstein & Chapel 2003; Renger & Titcomb 2002):

- Integrate planning, implementation, and evaluation
- Leverage the power of partnerships by encouraging participants to make changes based on consensus-building and a logical process rather than on personalities, politics, or ideology
- Enhance accountability by keeping stakeholders focused on outcomes
- Reveal data needs and provide a framework for interpreting results

A standard logic model, as used in this evaluation, has two important components: the planned work and the intended results.

### Planned Work: Inputs and Activities

The planned work component consists of inputs, the resources that organizations need to implement a program, and program activities, what they intend to do. Resources include the human, financial, organizational, and community resources a program has available to carry out its activities. Program activities are what the program does with these resources. Specifically, activities are the processes, tools, events, technology, and actions that are an integral part of the program implementation. An organization maintains considerable control over the planned work component by deciding upon the inputs and activities.

### Intended Results: Outcomes, Outputs, and Impacts

Outcomes comprise the intended results component, inclusive of the program's desired results. The outcomes of a program consist of two separate components: outputs and impacts. Outputs are the direct products of program activities and may include types, levels, and targets of services the program will deliver. On the other hand, impacts are the fundamental intended or unintended changes occurring in organizations, communities, or systems as a result of program activities. Impacts are specific changes in the attitudes, behaviors, and conditions, as well as knowledge, skills, status, and level of functioning of those participating in the program. We divide impacts into short-term, intermediate-term, and long-term impacts. Short-term impacts are those attainable within 1 year; intermediate-term impacts are those attainable within 2 to 3 years; and long-term impacts are those attainable within 4 to 6 years of program implementation. Often, long-term impacts occur after a project or program has concluded.

The construction of a logic model begins with identifying such impacts, or desired results of program activities. This is perhaps the most significant process by which one composes a



logic model. From there, we construct the proceeding sections in accordance with the steps necessary to achieve the result. Ultimately, a program logic model is complete when it graphically displays how a program will logically function, including its predicted results and anticipated relationships.

## Program Logic Model for CommunitiWorks

The subsequent sections detail the development of a program logic model specific to CommunitiWorks' efforts in Cambodia. Our team's logic model for CommunitiWorks (CW) can be found in Appendix D. The model graphically displays our team's interpretation of CW's efforts in Cambodia while the report provides greater detail and discussion of our findings and reasoning. This model is still in development by CW and subject to change with further program development and implementation. In the subsequent sections we utilize knowledge we attained from the W.K. Kellogg Foundation to outline and construct a program logic model.

### Inputs and Resources

Inputs, also referred to resources, include any human, financial, organizational, and community resources a program employs to achieve its ultimate purposes. In other words, inputs are the resources that go into the program to produce outputs and impacts. Practitioners should identify and list all resources needed to operate the program as inputs. The inputs for CommunitiWorks include time, funds, community building, funders, full-time staff, program recipients, in-country CommunitiWorks directors, community councils, health partners, educational partners, and a third-party in-country financial partner.

### Investment

CommunitiWorks serves as a liaison between funders and community councils, which then decide where to invest funds. CW selects communities to receive investments and requires that they establish a governing authority, referred to as a community council. CW's operating

guidelines define that each community council "will be comprised of representatives from participating organizations, local community leaders, and where practical, representatives from for-profit commercial sectors." Once established, each community council, with guidance from CW's in-country director, will select local investment projects to fund. This requires the in-country director to have "intimate knowledge of each community's existing social and economic infrastructure" (CommunitiWorks 2012).

CommunitiWorks will select a third-party in-country financial partner for each country in which it will operate. This partner will be responsible for distributing microfinance investments to recipients. The third-party in-country financial partner will either be "a multinational financial institution or a microfinance institution with a proven record of success and integrity" (CommunitiWorks 2012). This requires that the partner maintain strict accounting standards and practices while administering all microfinance funds. CW selected ANZ Bank to be the third-party in-country financial partner in Cambodia because of ANZ Bank's reputation for holding to these strict accounting practices and standards.

### Education

The second aspect of CW's program involves increasing the educational attainment of the local community. A requirement of all program participants, both community leaders and microloan recipients, is a commitment to educate their children in local schools. To assist in accomplishing this desired outcome, CW will partner with a locally identified educational organizations and schools to provide the "highest possible quality of education at the community level" (CommunitiWorks 2012). CW identified one educational partner in Cambodia: the Cambodian Volunteers for Community Development (CVCD). This partner was selected because it has a reputation for operating successful nonprofit schools in Cambodia.

## Health

The third part of CommunitiWorks' program involves increasing the overall health of the local community. To buttress their efforts in accomplishing this desired outcome, CommunitiWorks will partner with local health organizations. CW's in-country director will identify one to two health partners in Cambodia whose goals align with the mission of CommunitiWorks. CW will select the health partners based on their ability to provide excellent health coverage and health education in Cambodia.

## Staff

CommunitiWorks' full-time staff members, working both in the United States and in Cambodia, are key inputs for the CommunitiWorks program. These positions are responsible for many day-to-day undertakings and act as support staff to the in-country CommunitiWorks Director. In addition, the full-time staff establishes and maintains all relationships between the Cambodian craft suppliers and the international craft purchasers. As part of the program, CommunitiWorks will identify international craft markets and stores that can be used to export the local Cambodian crafts. The full-time staff, along with the in-country CommunitiWorks directors, will aid the loan recipients in managing their export network.

## Community Center

The final input into the CommunitiWorks program is the community facility. The community building serves many purposes. This building may be used for classrooms for the educational partners and they also serve as a clinic for the healthcare partners. In addition, the community building may be a central location for community council meetings and serve as a common meeting place for community members.

## Activities

Program activities describe how the program uses resources to produce the intended outcomes (W.K. Kellogg Foundation 2004, 2 & 8). Bright (2012) describes program activities, also known as program processes, of an organization as the organizational activities that shape the transformation of inputs, or resources, into outputs. Activities comprise the processes, tools, events, technologies, and actions the program intends to implement in order to realize the proposed changes or outcomes. The program logic model links inputs to activities with arrows to illustrate the anticipated relationships within the planned work component (See Appendix D). CommunitiWorks' program activities include three main categories: loan-related activities, activities of the partners, and project oversight activities.

### Loan-Related Activities

Loan-related activities refer to the activities which exist between the third-party in-country financial partner and the recipient community, via the community council, at the discretion of CommunitiWorks. Our team categorizes three stages of activities: loan allocation, loan repayment, and reinvestment.

### Loan Allocation

The financial partner will manage secured funds. From here, the community council plays an important role in the loan allocation process. As discussed in the inputs section, the community council decides how to distribute loans among local small businesses and individual borrowers. This process also requires the community council to "evaluate potential projects for microcredit investment, and ensure equitable and accurate distribution of those funds" (CommunitiWorks 2012). This process is the most essential activity of the program. Once the council determines how to distribute the funds, the financial partner will provide loans accordingly. Additionally, at this time CW provides selected borrowers with basic education on

financial obligation management. Simultaneously, CW will provide job skill training for local community members at the community building. This promotes the effective and efficient utilization of the loans.

### *Loan Repayment*

The financial partner manages the loan distribution and repayment process. Borrowers will repay the principal and interest accrued. The community council will collect the interest, typically at an annual rate of three percent of the principal but it will not pay the interest back to the investors; rather, the community council will retain those funds for reinvestment activities. If any delinquency occurs, the financial partner will inform the community council. At such time, the council will take actions to deal with the delinquency according to their predetermined delinquency policy.

### *Reinvestment*

Once the council receives repayment, it can begin the process of reinvestment on the community. The council will decide what improvement project will receive investment and the amount they will spend on the project. Generally speaking, in the area of infrastructure, supply chain of local craft businesses, and other public facilities the council determines investments for improvement within the community. Regardless, the community council and CW will work together at this stage to determine the logistics and community need.

### Activities of the Partner

This section introduces the activities of CW's partners, other than those which fall under project oversight activities. CW identifies two primary types of partners: educational and health partners. As previously mentioned, CW selected one education partner and no health partner yet.

### *Education Partner*

As discussed in inputs section, the education partner will be the Cambodian Volunteers for Community Development (CVCD). CVCD provides education programs for the children and teenagers in the community and ensures the attendance of those enrolled. It will utilize the existing facilities in the community for educational programs. Additionally, CVCD, in conjunction with CW, will develop and implement an appropriate, new curriculum for children in the community based on conditions. They will modify contents of the curriculum to remove or reduce the contents that may lead to women's equity issue.

### *Health Partner*

As suggested in the operating guidelines, the health partner provides general health services to community members. This partner offers basic immunization treatments to children in the community, including vaccines to common, local infectious diseases. However, according to CommunitiWorks, the organization has not yet determined a health partner. In the future, CVCD will assist CommunitiWorks in the identification of a health partner.

### Project Oversight Activities

The project oversight activities, namely, are those activities CW conducts to ensure the proper implementation of the project. CW supervises the program primarily through the in-country director, Saloth Lor. Mr. Lor maintains a significant influence over the community council's loan allocation and reinvestment decisions. Additionally, the community council must generate a quarterly report for CW. This report will include details about how the community council allocates the loans, the small businesses the funds support, any relevant delinquency updates, and other information requested specifically by CW.

According to the CW operating guidelines, the education partner(s) must prepare "quarterly reports concerning the students in their programs, their communities of origin, and their

activities” (CommunitiWorks 2012). Similarly, the financial partner and the health partner must also report quarterly to CW in written documents for relevant information.

## Outcomes

Outcomes are the specific changes in program participants’ behavior, knowledge, skills, status and level of functioning. Outputs are a direct result of the activities of the project and include measurable results and targets achieved by the program. While variation exists in the structure by which logic models assess outcomes/outputs, this model includes both outputs and impacts as components of outcomes.

## Outputs

Outputs are the direct results of the activities and include services and targeted improvements anticipated from the activities. Outputs imply that if CW accomplishes all planned activities, then they will deliver the intended amount of product and/or services. Our team identified outputs for CommunitiWorks and separated them into two categories: outputs from activities of the community council and outputs from the health and education partners. In each category, we discuss outputs as they relate to the respective activities. The program logic model, seen in Appendix D, contains arrows from “Activities” to “Outputs” which represent the anticipated relationships from the planned work to the first phase of the intended results component.

## Community Council

Loans disbursed by the Community Council may be used for purchasing a small plot of agricultural land, livestock, or expansion of a local facility, leading to the creation of new jobs in the community (World Bank 2007). Given that loan allocation stipulates repayment with a specified interest of 3%, as detailed in the activities section, CW estimates that community councils will generate a small profit from the loans. Should the interest rate change, CW should

recognize that program outputs and outcomes may vary. The community council will reinvest the three percent interest it collects upon repayment to promote local crafts by establishing newer markets and an innovative supply chain infrastructure. PlaNetFinance defines supply chain as a range of activities and services required to bring a product from its conception to sale in its final markets. This includes establishment of small scale trading units as well as large scale trading and selling infrastructure (PlaNetFinance 2010). The community council will also generate a quarterly report in partnership with the health and education partners as discussed in the activities section. This report provides detailed analysis on the microloans provided and net statements of their profits. Additionally, this report provides an overview of the investments in the community, as well as details surrounding the projects they promote and profits earned. The report details the education and health partner's efforts and progress within the community.

CommunitiWorks provides job skills training as outlined in the Activities section in the target community to equip residents for local jobs and entrepreneurship. The training will also comprise of financial management training to loan holders to increase repayment and reduce loan stress. We believe that training programs will result in increased investments and increased demand for microloans to fund new community projects and businesses (Karlan & Valdivia 2012).

### Healthcare Partner

Through a partnership with healthcare providers in the community, CommunitiWorks will increase the level of vaccination delivery to children under the age of five. The partner will provide basic health services through establishing or upgrading existing health clinics in the community. CW assumes that the healthcare providers will create sustainable levels of health services in the community. A study by the World Bank suggests that direct health services are an important factor in the success of the microfinance program as well as an important factor in the CommunitiWorks model (LedgerWood 1999).



As an example, a microfinance institution in Kenya, Jamii Bora's, observed that many of its clients were falling behind on their loan payments and noted that a majority were using their money to pay the health costs of sick family members, rather than for loan repayment. This inspired the microfinance institution to begin to provide healthcare to its clients (WHO 2008).

We conclude that the provision of direct health services will serve as an important factor to the overall success of CW's efforts.

### Education Partner

Lastly, CommunitiWorks plans to invest in primary education facilities by partnering with organizations like Cambodian Volunteers for Community Development (CVCD). The community council will provide the necessary training and microloans in an effort to expand existing educational facilities and outreach to students. We anticipate that education availability will increase both in terms of formal and non-formal school, teacher-to-student ratio and book availability.

### Impacts

Impacts are the fundamental intended or unintended changes occurring in organizations, communities, or systems as a result of program activities. Impacts are specific changes in the attitudes, behaviors, and conditions, as well as knowledge, skills, status, and level of functioning of those participating in the program. We divide Impacts into short-term, intermediate-term, and long-term impacts. Our team anticipates that four primary impacts will occur in the following areas: economic sustainability, psychological wellbeing, quality of life, and educational achievement.

## Economic Sustainability

Economic impacts are the effects that a program or situation has on a community economy (Weisbrod 1997). As such, economic sustainability includes community development projects that result from economic development. CW believes that community development projects will occur as a direct result of the activities and inputs of the community council under CommunitiWork's model.

### *Short-Term*

Through community investment, as outlined in the outputs section, CW expects that small economic developments will occur. Such development includes small infrastructure projects such as construction of wells and small public facilities. Infrastructure projects include sanitation infrastructure (discussed in the subsequent Quality of Life section) as well as education infrastructure (seen in the following Education Achievement section). The model also outlines relationships among inputs, activities, and outcomes. CommunitiWorks also expects that the development of a skilled workforce, as outlined in the Outputs section, will lead to a more efficient local craft supply chain in the short-run. Increased revenue and growth in the local economy will lead to increased individual income and a larger workforce; both of which will raise aggregate income (Weisbrod 1997). As a result, increased employment, coupled with a more efficient supply chain will yield higher aggregate incomes.

### *Intermediate-Term*

The short-term impacts will lead to broader community-level impacts in the intermediate-term. CW expects increased infrastructure development to occur in the community, including larger community projects such as road and house construction. The skilled workforce will begin to expand their personal market and diversify their profit streams, impacting the overall

community economy. Employment and aggregate income will continue to increase in the intermediate term as small businesses continue to grow and diversify.

### *Long-Term*

Our team projects that economic sustainability will grow at a community level in the long-term. Indicators to measure this impact start with large infrastructure projects and the continuation of past infrastructure developments. Community levels of aggregate income will increase due to the influx of jobs and revenue as a result of enterprise. These small to medium scale enterprises should arise in the community and continue to thrive throughout the long-run. Each long-term impact results directly from intermediate and short-term impacts seen in the logic model (Appendix D).

### Psychological Wellbeing

Psychological well-being is a concept that includes the interplay of social and psychological behavior, as well as health-related behaviors (Seifert 2005). It is an outcome CW expects will improve as a result of the activities and inputs of the community council. Through community investment, CW expects that people who benefit from either community investments or training programs will experience small, positive changes in attitudes and optimism. Participants are likely to become more independent and take pride in their community work, as well as expand their businesses through leadership and commitment. A 2005 study of microfinance in India conducted by Assets Reconstruction Company finds that microfinance has a significant impact on life satisfaction, as well as happiness. In this section we discuss the short, medium and long term impacts on happiness and other factors in tandem.

Through CommunitiWorks' microfinance model, in the short-run CW expects to see an increase in happiness and life satisfaction among people from communities who participate in the program. The participants tend to have lower financial stress and give more time towards

their families. The logic model contends that the short-term impacts of optimism and happiness will lead to broader, community-level impacts in the medium and long term. The Ryff Scale of Psychological Wellbeing defines these individuals to be self-determining and independent as well as willing to share their time with others (Van Dierendonck et al. 2007). With more optimism an individual is likely to be less involved in community disrupting activities and is likely to work with others towards betterment of community issues. While psychological wellbeing is still difficult to measure CW expects wellbeing to grow at a community level in the long-run. CommunitiWorks expects to see a feeling of continued development, a sense of realizing potential, and feelings of comfort and security indicate growth and wellbeing of the community (Seifert 2005). CW expects growth in optimism among beneficiaries to increase in the long-term along with happiness and sense of achievement. Social status consists of both the status of women and differences in actual and perceived economic standing (Waytz 2009). CW expects this component to improve compared to other communities in the long run as a result of the community investment from the council. Each of these impacts results from a direct effect of general improvement in education and standard of living.

### Quality of Life

The World Health Organization defines quality of life as "individuals' perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns" (1997). CommunitiWorks expects that participating community members will experience an increase in quality of life as a result of the activities and inputs of the community council. We anticipate this outcome as a result of multiple outputs.

### *Short-Term*

Through the creation of jobs, CW expects that individuals will increase their income in the short-term. As previously discussed, CommunitiWorks identified an education partner and has stated plans to identify a health partner. Although CW is not certain that health education will be a priority of a health partner, it will have an impact on outcomes CW anticipates in the intermediate-term. Moreover, small scale infrastructure projects CW anticipates as a result of community investments will likely lead to the development of a basic sanitation infrastructure. Finally, CW anticipates the increased availability of vaccinations as a result of the health partner, to increase the number of community members who receive immunizations.

### *Intermediate-Term*

CW expects that the previously discussed short-term impacts will continue to improve the quality of life for community members in the intermediate-term. Specifically, the short-term impact of increased income, coupled with a recommended health education component, will provide community members an opportunity to consume higher quality and quantity nutrition. Moreover, CW expects the short-term investment in sanitation infrastructure to result in increased access to clean water. Finally, increased access to immunizations in the short-run correlates negatively with disease, thereby reducing the risk associated with disease and outbreak within the community.

### *Long-Term*

We anticipate that the short and intermediate-term impacts will collectively lead to better life quality than previously experienced throughout the term of the project. Overall, these impacts will lead to broader community impacts, specifically a reduction in poverty. Additionally, the three intermediate-term outcomes – improved nutrition, increased access to clean water, and reduction in disease – will result in improved health conditions within the community.

## Education Achievement

Right to education is a human right guaranteed by the U.N. International Covenant on Economic, Social and Cultural Rights of 1966. This Covenant has 160 parties, and seven more countries have signed but not rectified the Covenant. Education is a widely recognized catalyst for economic development (Harbison & Myers 1964; Gylfason 2001; Psacharopoulos & Woodhall 1985). Additionally, labor economics literature thoroughly proves the positive impact of education on personal and household income (Saxton 1961; Rodríguez-Pose & Tselios 2009; Mastromarco et al. 2011). Therefore, education improvements are an important expected outcome of the program, especially of the activities of the educational partner (CVCD).

### *Short-Term*

In the short-term, with the increasing education availability from the education partner, CommunitiWorks will reach the parents to ensure the educational enrollment, attendance and performance. Given the enrollment requirements set forth by CW as a condition of microloan receipt, CW expects an increase in enrollment and attendance. CW expects this rate to reach the national average level in the first few months after implementation. Kim (2011, 496) indicates that the dual roles of laborer and students has impaired the school enrollment and performance of the children, especially young females. CW expects educational attainment of recipients' children because loan recipients must send their children to CW education programs. Therefore, it will reduce the amount of time the children can participate in economic activities. This will subsequently reduce the roles of their children in economic activities. Such improvement will manifest itself in the form of higher examination grades in the short-term. Though this is primarily an improvement on the individual level, the collective improvements in grades of participants will signal a community level improvement. In addition, to enhance the education performance, CW and CVCD will work together to develop a new curriculum. The

curriculum, however, does not seem to have a significant impact in the short-term since it will take a considerable time to develop it. It might not come about until the intermediate term.

Moreover, CW also estimates the improvements on educational achievements. The problem structuring report has identified the deficiency of infrastructure in Cambodia. CommunitiWorks anticipate that the community council will spend funds to improve education infrastructure. These improvements will promote community schools' ability to retain students, and this, in turn, will contribute to the education impacts at the later periods.

### *Intermediate-Term*

The logic model also contends that the short-term impacts of increasing educational enrollment rate and higher educational attainment will lead to larger-scale intermediate improvements in these two aspects. With the expansion of loan activities throughout time, CW anticipates a significant increase in the educational enrollment rate to reach the national average level since the loan recipients must send their children to CW's education programs. Among the eligible children, the female enrollment rate in the upper grade levels will grow significantly since CW will have developed a new curriculum to address women's equity issue in the education aspect. As for the educational attainment, CW expects examination grades to improve in the short-term. Beyond grades, we also expect educational attainment, in terms of level of education attended, to increase in the intermediate term. We estimate literacy rates in the community to grow significantly since considerable children and teenagers will have received quality education.

Moreover, in the intermediate term, as the short-term infrastructure improvements continue, the community council should expand the scope of improvements from solely on educational buildings to including library services and information technologies. These improvements together will contribute to a better education system in the community.

## Long-Term

CW expects educational impacts to grow at the community level in the long-term. Aspects of this timeframe include improvements in formal education, a better education system, a higher college enrollment rate, and an educated society. Zanzig (1997) found that a certain level of competition is necessary for good performance among schools. CW expects the educational programs through partners to be of high quality, and those programs will create competition in the local education market. Then, the traditional public schools must improve their qualities. "A better education system" has a threefold meaning in this context:

- Better educational facilities, including libraries and technologies
- More educational opportunities
- Smaller gender gap in the upper level of education.

The first and second aspects of this goal include the expansion of infrastructure in the education industry, whereas the third results from the efforts of reducing young females' economic roles in their childhood and teenage (Kim 2011, 496). Navarro-Valls (1995) also indicates that access to education at all levels is essential to liberation and promotion of women. Higher educational attainment in primary and secondary educations will prepare the children better for higher education. The other aspects of this program will also increase the income and wealth of the family, which in turn enables those children's to go to college. Thus, CommunitiWorks could expect a higher college enrollment rate in the long-term. Finally, "an educated society" means that the literacy rates, as well as the completion rate of secondary education, will significant increase in the community. Those long-term impacts are the results and extension of short-term and intermediate educational impacts.

## Assumptions and External Factors

The assumptions held and external factors identified by our team encompass the "other" factors which impact the degree to which the logic model is implemented. Assumptions are



those beliefs held by our team, which are based on regular conversations with the CW leadership. In essence, these reflect beliefs held by the CW leadership about the program model. The primary assumptions are identified in the lower left-hand side of the logic model. Should these change or not hold to be true, it is possible that a portion of the model may not function as anticipated.

Also relevant are external factors. These include factors for which CW and community members have little control. These are identified in the lower right-hand side of the logic model. Certainly, CW cannot control what decisions the Cambodian government will make. Additionally, the work of other non-governmental organizations (NGOs) may support or inhibit portions of the CW model. Climate and environment also is a prominent factor, as better or worse than average climate may impact year-to-year crop yields as, as a result, the communities' conditions may vary based on this. Finally, receptivity is also a factor for which CW may have little influence, particularly in the evaluation process. Some community members may not be receptive or be well-informed of CW's efforts in the community. As such, some community members may refrain from involvement in efforts on the ground and the evaluation process. While CW may have an ability to impact this to a degree, it is certain that the receptivity of all community members cannot be controlled.

## Conclusion

This report translates the vision of CommunitiWorks into a program logic model, displaying graphically, while supplementing with greater detail throughout the text, about how CW's model functions. It is important to understand the reasoning behind how a program or project achieves expected results. Logic models promote dialogue about how program structure can be modified for improved performance and assist in the identification of weaknesses. Given

the logic model and findings detailed in this report, CW and its partners, contributors, and other affiliates can visualize how their program is expected to achieve its goals.

Our findings suggest that CommunitiWorks is likely to achieve the impact detailed in this report, assuming the inputs and activities are carried out as prescribed in the logic model. We anticipate impacts in four primary areas: economic sustainability, psychological wellbeing, quality of life, establishment of health infrastructure and educational achievement. Ultimately, these impacts will collectively contribute to a broad impact of higher living standards for members of the community.

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# **Baseline Assessment Strategies**

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*Methodology*

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## Abstract

For CommunitWorks (CW) to have the greatest impact on the communities and individuals they will serve they must develop an organization culture focused on continual improvement. To build this culture CommunitWorks needs to develop and annually conduct an impact assessment to determine whether their programs produce their desired outcomes. However, since CommunitWorks has not begun operations in Cambodia, we have developed and conducted a baseline assessment of the communities in which CW will operate. As such, this report includes a detailed research design, an examination of the surveys we developed to measure impact variables, an explanation of the sampling process, an exploration of the validity of the design, and our attempts to remove any outside bias or error.

The final research design includes three distinct surveys: a Community Level Survey, a Researcher Observation Survey, and a Household Survey. Our team utilized the best practices from academic literature as well as other reputable sources, including the USAID and World Bank, to develop the baseline assessment research design. By incorporating best practices in the development of the Community Level Survey, the Observation Survey, and the Household Survey, our team minimized the error or bias of the baseline assessment. Each survey contains three main sections investigating the economy, education, and the health and well-being of individuals in the community. To achieve randomization in the sampling process, we incorporated the random walk methodology into the research design. As the name suggests, in the random walk approach, evaluators simply walk from house to house conducting surveys. Furthermore, to reduce the amount of human error and bias, we developed a detailed process standardizing how evaluators conduct each interview. Two major threats to validity, instrumentation and selection, exist for the proposed research design.

# Program Evaluation

After properly constructing both the problem and logic models evaluators must develop a research design assessing the program. Evaluators should conduct an impact assessment to determine whether a program actually produces the intended outcomes (Rossi et al. 2004, 234). However, since CommunitiWorks (CW) has not begun operations in Cambodia, we can only conduct a baseline assessment of the communities in which CW will operate. Performing a baseline assessment to capture the initial conditions in each community will provide CW with a set of data which future evaluators can use to determine CW's impact in each community. Because of research and time limitations, we must select an appropriate, tangible *research design*, or the strategy used to produce the results of an impact assessment. Through this systematic process of applying techniques to describe, summarize, and compare data, evaluators can reduce the threats to validity (Rossi et al. 2004, 234).

Developing a research design for an impact assessment can be difficult. Evaluators must account for two competing pressures in the development of the research design for (Rossi et al. 2004, 234). The first pressure is to develop an evaluation rigorous enough so strong conclusions can be made about the impact of a program. The second pressure is to consider the amount of resources required to perform the evaluation, the limitations associated with the use of human subjects, and the practicality of the methodological procedures of the evaluation (Rossi et al. 2004, 234). Designing a baseline assessment that balances these pressures can be particularly beneficial at the development stage of a program.

With this in mind, this section of the report explains the formal research design and the baseline assessment we developed. This report includes a detailed research design, an examination of the surveys we developed to measure impact variables, an exploration of the validity of the design, and our attempts to remove any outside bias or error.

# Research Design

Once evaluators define all of the relationships among the study variables, they can then select a suitable research design to collect the needed data for the baseline assessment. Selecting an appropriate research design is vital to minimize threats to validity. When developing a research design for the baseline study, we faced many limitations of the program and knew little about the target communities. As a result, we could not develop a research design that would utilize a randomized field experiment, though it is the preferred method of research design. We faced several limitations: the inability to make random assignments of survey participants, limited time on the ground in Cambodia, the costs of sending additional evaluators, and certain ethical considerations. Because of these, we could not utilize the preferred research design and employed the next best alternative which involves using community level, observation, and Household Surveys.

To evaluate how CW addresses the problem of poverty, our team examined academic literature to find a best practice design specifically for evaluating programs aimed at addressing poverty. The United States Agency for International Development (USAID) has developed a series of Poverty Assessment Tools (PATs). Our team utilized the best practices from these PATs, as well as other reputable sources, including the World Bank, to develop the baseline assessment research design. The final research design included three distinct surveys: a Community Level Survey, a Researcher Observation Survey, and a Household Survey.

## Survey Development

Surveys are frequently used to collect data for an evaluation of a program. However, developing a survey is a critical and complex step that can have major effects on the results of a baseline assessment. In particular, the phrasing and ordering of each question in the survey can positively or negatively affect the data collected from the survey. To minimize error or bias, our



team incorporated the best practices from relevant literature and previously successful surveys to develop the Community Level Survey, the Observation Survey, and the Household Survey for the baseline assessment. There are three main sections within each of these surveys including the economy, education, and the health and well-being of individuals in the community

### Economy

As indicated in the Program Logic Model Report, one of the primary goals of CW is to stimulate the local economy of each community. Including questions to measure economic variables at the community and household level are instrumental in the development of all three surveys. After reviewing literature and best practices from relevant surveys, the team identified questions that could be used in the baseline to capture economic data. Questions range from household monthly income, expenditures, and possession of luxury items, to community level employment rates, and the number of families that live on less than a dollar a day. From these and other questions, a baseline describing the economic status of a community is established.

### Education

After reviewing the literature, the Problem Structuring Report points to several key barriers that prevent Cambodian youth from receiving quality, equitable, consistent public education. Issues include child labor, inadequate professional training for instructors, regular revision of curriculum, and the presence of female instructors in classrooms. When constructing our surveys, we examined existing national level data and indicators and sought to ask questions that would provide similar data at the community and household levels. The World Bank—World DataBank for World Development Indicators served as a primary model as we formulated indicators and subsequent questions. This source stratifies its indicators into primary, secondary, and tertiary education levels. Additionally, Cambodia stratifies its education levels as such in its National Strategic Development Plan. The country funds 6,180 elementary schools and 800 secondary schools (National Strategic Development Plan 2006, xviii).

Additionally, most data is also stratified by sex. As a result, nearly all questions this report includes are repeated for each level of education and for each sex.

## Health and Well-Being

As we developed our indicators of what true change and development in Cambodia would entail, the client indicated an interest in gauging the personal well-being of the average Cambodian. This would entail not only the physical health of each program participant and access to health care, but also a way of tracking happiness improvement as a result of their experiences with CW. We incorporated this element into the Program Logic Model. Literature review from a variety of sources highlighted particular indicators to gauge these conditions. It should be noted that the psychological element of this study did not surface as a particular need in the initial analysis of the state of Cambodian society, but is included by request of CommunitWorks leadership.

We investigated several issues, including general state of health, access to health care, personal happiness, and optimism for the future. When creating the survey, we researched previous studies that had been done to gauge community attitudes and found several specifically within the microfinance context. Our team formed questions at the individual and community levels, utilizing self-evaluation as well as observation for a well-rounded evaluation.

## Community Level Survey

To collect aggregate information for each community, our Capstone group developed a survey to interview community leaders. We hoped to compare the results of this survey to existing national figures. The Community Level Survey consists of three main sections. The first section centers on education, contains twenty-six questions, and is designed to assess the quality and accessibility of education in each community. The second section of the survey consists of six questions about general economy of the community. Finally, the third section, containing thirteen questions, inquires about the psychological and physical well-being within

the community. The question numbers in this report correspond to its question number in the Community Level Survey. Appendix E contains the entire Community Level Survey for this baseline assessment study.

## Education

The World Bank has compiled 117 education indicators (World Bank 2013c). Again, many of these are stratified by education level and by sex. We looked to the following World Bank indicators when developing our own to measure baseline education in our five Cambodian communities (World Bank 2013c):

- |   |  |
|---|--|
| <ul style="list-style-type: none"><li>• Enrollment rates (by each level and sex)</li><li>• Literacy Rate (by age groups and sex)</li><li>• Completion Rate (by level and sex)</li><li>• Persistence to 5th grade or to the last grade in education level (by sex)</li><li>• Number of trained teachers (by level and sex)</li></ul> | <ul style="list-style-type: none"><li>• Number of children out of school</li><li>• Pupil to teacher ratio</li><li>• Expenditure per student (% of GDP per capita)</li><li>• Public spending on education (% government expenditures and % GDP)</li></ul> |
|---|--|

From these indicators, we developed the following questions to determine the quality of education provision in five Cambodian communities. Additionally, the male and female breakdown of enrollment, retention, and presence of trained teachers seeks to measure parity within schools.

- |  |
|--|
| <ol style="list-style-type: none"><li>4. What is the teacher to student ratio per school?</li><li>5-7. What is the enrollment of each elementary/secondary/tertiary school in the community?<ol style="list-style-type: none"><li>a. Female enrollment?</li><li>b. Male enrollment?</li></ol></li><li>8-10. What is the retention of each elementary/secondary/tertiary school in the community?<ol style="list-style-type: none"><li>a. Female retention?</li><li>b. Male retention?</li></ol></li><li>11-13. What percent of teachers in each elementary/secondary/tertiary school in the community have been trained professionally?<ol style="list-style-type: none"><li>a. Female teachers?</li><li>b. Male teachers?</li></ol></li></ol> |
|--|

The following questions will help determine accessibility of education in each community.

- 1-3. How many elementary/secondary/tertiary schools are in the community?
- 14-16. What percentage of community resources is spent per elementary/secondary/tertiary school student annually?
- 17, 19. What is the literacy rate in the community for males/females 18 and under?
- 18, 20. What is the literacy rate in the community for males/females over 18?
21. How many children (aged 6-18) are working and studying simultaneously?
  - a. How many of these are males?
  - b. How many of these are females?
22. How many children (aged 6-18) only work and do not participate in any form of education?
  - a. Females?
  - b. Males?

The Problem Structuring Report also points to the government's policies regarding the content and frequency of revision of public school curriculum as potential sources for the state of Cambodia's education system. Existing surveys from which we modeled this survey do not explicitly ask about curriculum. However, they do explore governance, gender equality, accessibility, and quality. As a result, our team asked officials how frequently they revise the curriculum and the number of curriculum topics that explicitly pertain to women's issues.

## Economy

The second section of the Community Level Survey focuses on economic indicators and consists of six questions. We developed these questions after examining literature focused on economic growth and poverty.

27. What is the total amount of money invested into the community through CommunitiWorks' micro loan program?<sup>1</sup>
28. How many community members living on less than one dollar a day?<sup>2</sup>
29. What is the unemployment rate for the community?
30. What is the number of exports for the community?
31. What is the number of businesses in the community (by sector and size)?
32. How many jobs have been created because of CommunitiWorks' micro loan program?

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<sup>1</sup>It is important to note that questions 27 and 32 were originally included in the baseline survey because CW's program was initially intended to be in operation when the survey was going to be given. However, due to external factors the program had not begun operation during the survey.

<sup>2</sup>It is important to note that the sentence structure for question 28 in the original survey is grammatically incorrect and should read "How many community members live on less than one dollar a day?"

## Psychological and Health

The final section of the Community Level Survey addresses issues of health and happiness in the targeted communities. Utilizing indicators directly from USAID surveys, these questions highlight quality and availability of healthcare, typical health quality of life for the average person in the targeted communities, and the prevalence of negative habits, including smoking. We used the following questions to examine healthcare:

33. What is the number of community health workers (per 1000 people)?
34. What is the health expenditure from the community (total % of GDP)?
35. How many hospital beds are in the community (per 1000 people)?
36. How many physicians are in the community (per 1000 people)?

The next segment of questions in the Community Level Survey asks the community leader to identify the existence of serious health issues:

37. What is the life expectancy at birth for this community?
38. What is the infant mortality rate for this community?
39. What is the prevalence of undernourishment in the community (% of population)?
40. How many children are living with HIV in the community?
41. How many incidences of tuberculosis have been reported in the community (per 100,000 people)?

The final segment of questions seeks to identify self-harming behavior, which is a reflection on community happiness and optimism. We can compare these indicators to national level statistics to determine if the targeted communities are particularly at-risk of these negative behaviors.

42. What is the smoking prevalence in the community (% of adults)?
43. What is the suicide rate in the community?
44. What is the rate of prescribed anti-depressants in the community?
45. What is the prevalence of substance abuse in the community (% of population)?

## Observation Survey

With evaluators on the ground in the target communities, we utilized specific observation survey questions recorded alongside the interview survey questions. Observation surveys can also save time when conducting Household Surveys because answers to questions can be

observed instead of being asked, leaving more time for other necessary questions. In addition, observations can reduce the complications of asking individuals questions dealing with personal issues such as health and attitude towards their community, which can be self-censored by interviewees because of embarrassment or other concerns. Our research team used observable indicators to evaluate the quality of facilities within a community, the observed health and happiness of community members, and the general standard of living.

The Observation Survey includes three main groups of questions for the baseline assessment. One of the groups of questions allows observers to record the quality of households in the communities. This group of questions is important because it can speak to the economic standard of living for community members. Another group of questions evaluates the quality of educational facilities. This group of questions is important to include because numerous research studies have shown how the quality of a facility can affect the learning of a student. Finally, the third group of questions records the observed health and attitude of community members. Appendix F contains the Observation Survey used during the baseline assessment study.

### Economic Standard of Living

The questions used to assess the economic standard of living in the observation focus on the quality of the residence of each household. These questions can help indicate the economic status of a household by describing their living conditions. Most of the economic standard of living observation questions provided space for the observer to write down specific information. Researchers sought to keep observations consistent across all households by using the same words to describe similar observations.

1. What is the primary construction material of the roof of the housing/dwelling unit occupied by your household?
2. Wall/floor materials?
3. Toilet facilities in home? YES/NO
4. Water source? Electricity source?

## Education

During their visit, the research team also recorded observations primarily concerning school facilities. The second question in the Observation Section seeks to measure equity in accessibility and quality provision for both males and females. In her research, Velasco (2004, 40) asserts that even an absence of necessary facilities can discourage students, especially female students, from attending school.

1. What is the general condition of the school facilities?
2. How many bathrooms are in the schools?
  - a. For females?
  - b. For males?
- 3a. Do schools have electricity?
- 3b. Do schools have plumbing?
5. How crowded are classrooms?
6. How clean is the building in general?

## Health and Happiness

The indicators in the Observation Survey serve as a developing narrative describing the overall situation on the ground in Cambodia. As personal health and happiness can be sensitive issues to be shared with interviewers, observation of general trends contributes to the population description without violating privacy or causing discomfort for individuals participating in the Household Survey. The following indicators of community health and happiness are included in the baseline evaluation because they mirror observations done in a previous study (Uslaner 1998):

- Overall health appearance of children (malnourished, overweight)
- Cleanliness of children (clothed, bathed, wearing shoes)
- Prevalence of smoking
- Prevalence of day drinking (alcohol)
- Overall attitude of people (friendly, angry, cordial)

From these indicators, we created the observation survey pertinent to health, both physical and psychological. Though not incorporated into the statistical analysis of the baseline evaluation of the Cambodian communities, these observations from surveyors in country contributed to the overall picture of the status of poverty and health in the region. Observation of these indicators (e.g. a high number of adult smokers) would reflect negatively on the general health evaluation of the Cambodian community. Potentially defaming habits like smoking and high alcohol consumption are best identified through the observation of team members instead of asking the interviewee through a survey question. If asked this type of question, an interviewee will probably not admit to participating in these defaming habits.

### Household Survey

USAID's PAT provided a best practice for surveying in developing countries, which encourages the use of a Household Survey. This USAID survey includes reliable set of questions that have been phrased, coded, and put in a specific order and format to produce consistent, measureable results (USAID 2008, 10). Our team adapted USAID's survey and incorporated other best practices from literature to develop a unique Household Survey that capture the data needed to establish a baseline for CW's program.

A unique Household Survey for CW is one of the tools developed to conduct the baseline survey. Surveys like a Household Survey are useful when the required data cannot be obtained as a routine part of program activities (Rossi et al. 2004, 189). As a developing program, CW has no means to collect the needed data for an evaluation through its daily operations. Furthermore, USAID (2008, 8) indicates that because of the standalone



methodology design behind the Household Survey, the survey can be implemented annually. This benefits CW because, once refined, the Household Survey developed for the baseline assessment can be used in the future as an evaluation tool of CW's program. As a result, it is appropriate to incorporate a proven survey like USAID's Household Survey to collect the need data for the baseline assessment.

The Household Survey is an ideal strategy for the baseline assessment because it is designed to be conducted in the home of clients and includes the direct observation of living conditions (USAID 2008, 10). This method is one of the most accurate evaluation techniques for assessing poverty in underdeveloped and developing countries. While this survey methodology can be utilized by any organization, it is an expensive and time-consuming survey approach (USAID 2008, 10). The Household Survey method is expensive because it requires surveyors to personally conduct numerous 30 minute surveys in the homes of community members. However, despite the costs and time required, our team decided to follow this USAID best practice approach to establish a baseline for the local communities CW will work with. This proven survey method will add validity to the evaluation.

Within the Household Survey developed for the baseline assessment, six main sections of questions exist. The first three sections are designed to measure the economic standard of living. The first section consists of seven general questions about the household. The following section assesses the housing condition of the interviewee through seven questions. The third section measures the household's economic standing by asking eight questions focusing on household consumption and luxurious items owned. The fourth section explores education within the household through four separate questions. The fifth section attempts to measure the happiness of the interviewee through ten questions. Finally, the sixth section assesses the health and access of the healthcare of the interviewee through four questions. Furthermore, the

question numbers in this report correspond to the question number in the Household Survey. The complete Household Survey for the baseline assessment study is located in Appendix G.

### Economic Standard of Living

We first ask seven general questions concerning each household. Based on recommendations from USAID (2008), we define the term "household" as an individual or a group of individuals who live together and take food from the "same pot." Members of a household include anyone who has lived in the home for six of the last twelve months, but does not include anyone who lives in the home but eats separately. Furthermore, each member should contribute to and benefit from the household. This definition of "household" is articulated to each interviewee before the seven questions were asked. Defining the term "household" is important in the assessment survey to help minimize response error by establishing a common framework for each interviewee. With this framework defined, respondents are asked the following seven general questions about their household.

1. How many individuals are living in the household?
2. What is the sex of the head of household?
3. What is the age of the head of household?
4. What is the occupation of the head of household?
5. What is the average monthly income for the head of household?
6. What is the average monthly family income?
7. On average how much does your household spend on food in one month?

The second section of questions was developed as household indicators to assess the current residence of the household. These questions are used to evaluate the standard of living within each community.

8. Is this dwelling owned by a member of your household?
9. Do you rent this dwelling for goods, services or cash?
10. How much do you pay in cash to rent this dwelling?
11. What is your household's main source of lighting?
12. Did your household boil or otherwise treat its drinking water last month?
13. What is your household's source of drinking water last month?
14. What type of fuel does your household mainly use for cooking?

The first two questions in the third section of the Household Survey are food consumption questions that evaluate the frequency of eating certain types of food. The two questions also attempt to assess what types of food are considered luxury food items. A luxury food is one that richer people in a community eat frequently, but is seldom eaten by the poor because of the price of the item (USAID 2008). In developing countries, questions about luxury food items accurately indicate the general financial stability within the household.

15. How many times in the past 7 days did your household consume fish/fish paste, squid, shrimp and prawns, etc. at home?
16. How many times in the past 7 days did your household eat other meat, such as beef, pork, chicken, duck, etc., at home?

The remaining six questions in the third section of the Household Survey concern household assets. Similar to the food consumption questions, these household asset questions are meant to identify who is considered *rich* and who is *poor*. USAID (2008) recommends using the "5% Rule," which states that the best indicators are items that 5% of the population owns or that 5% of the population does not own. Some items like televisions, dining sets, and motorcycles may be owned by the poor, but not the very poor.

17. How many televisions does your household own?
18. How many video tape players or video tape recorders does your household own?
19. How many motorcycles does your household currently own?
20. How many suitcases does your household own?
21. How many dining sets does your household own? By dining set, I mean a dining table with chairs.
22. How many wardrobes or cabinets does your household own?

## Education

Community level data is tailored from existing surveys crafted for the national level to better suit the smaller communities outside of Phnom Penh. Researchers attempted to take this a step further and measure education accessibility, quality, and gender equality for each household. To measure literacy at the household level, respondents were asked:

23. How many individuals in your household can read a simple message in any language?

To measure accessibility to education, and gauge barriers in each community, researchers asked:

- 24. How do you and your children get to school?
- 25. How long does it take you or your children to get to school (one-way)?
- 26. How much do you (household) spend on educational expenses per child annually?

### Health and Happiness

Included in the baseline evaluation are particular indicators intended to gauge individual levels of health and happiness. A review of current literature revealed the following indicators as pertinent and measurable for our baseline evaluation of Cambodian communities:

- Physical health
- Access to healthcare
- Financial barriers to receiving healthcare
- Geographic barriers to receiving healthcare
- Happiness
- Optimism for Future of Self/Family
- Optimism for Future of Society/Community
- Self-Confidence
- Financial Confidence/Stability

We identified the best practices of measuring the indicators listed above (Swarmi 2008; Plagnol 2011; Uslaner 1998; Harris 2007; Haas 2004; Bashshur 1994). The questions developed for our survey in Cambodia came directly from the surveys utilized in these studies. However, pulling individual questions from an entire survey will only be able to give a sampling of the larger evaluation that would be necessary to truly understand the quality of life in these Cambodian communities. The following questions are in the survey distributed to Cambodian individuals to gauge the general state of psychological well-being:

27. In general, how would you rate your happiness?
28. Some people are generally very happy. They enjoy life regardless of what is going on, getting the most out of everything. To what extent does this characterization describe you?
29. Some people are generally not very happy. Although they are not depressed, they never seem as happy as they might be. To what extent does this characterization describe you?
30. I have confidence in my opinions, even if they are contrary to the general consensus. To what extent does this characterization describe you?
31. I like most aspects of my personality. To what extent does this characterization describe you?
32. Some people wander aimlessly through life, but I am not one of them. To what extent does this characterization describe you?
33. Will life for your children be better than it has been for you?
34. "The lot of the average man is getting worse." To what extent do you agree or disagree with this statement?
35. Do you feel that you have control over your own destiny?
36. Thinking of the way your family lives, would you say your family is better off today in terms of money than a year ago, about the same, or worse off than a year ago?

In addition to gauging psychological health, CW emphasizes the need for physical health and access to healthcare. Studies seeking to gauge individual perceptions of quality of life include a scale of self-evaluated health scale, which we incorporated as the major evaluator of individual health in our analysis. Thoroughly gauging the individual and community health level in the door-to-door survey process has significant limitations. Therefore, self-evaluation was the best practice option for our evaluation. In measuring healthcare access, questions from previous academic studies are utilized (Bashshur 1994; Haas 2004).

39. How would you rate your overall physical health?
38. Have you experienced difficulty obtaining any type of health care, delayed obtaining care, or did not receive health care they thought they needed?
39. Did you not receive a doctor's care or a prescription medication because the family needed money to buy food, clothing, or pay for housing (referred to as "financial barriers")?
40. Did you not receive a doctor's care or a prescription medication because of geographic barriers (travel time to receive healthcare)?

This combination of questions seeks to gauge the Cambodian individual's assessment of his or her own quality of life regarding to health and well-being. Though limitations exist due to

the inherent bias of self-reporting, these questions, combined with the researchers' observation assessments, will define a baseline for the overall health and happiness of the Cambodian in the target communities. These questions highlight the element within the Logic Model that seeks to identify if participation in CommunitiWorks will improve the overall quality of life in health and attitude.

## Sampling Process

Ideally, every individual in a CW community would participate in the baseline assessment survey. However, it is more realistic to assume that the communities would be too large to survey the entire population. As a result the team needs to select a representative sample group of individuals in the community to participate in the survey (USAID 2008, 26). When done properly, a sample group can produce reliable information about the characteristics of the target population (USAID 2008, 26). To properly represent the community, a large sample population that is truly random is necessary (USAID 2008, 26). Randomization provides every citizen in the community an equal chance to be selected to be placed into the sample group (Rossi et al. 2004, 240; USAID 2008, 26). This would ensure the representativeness of the sample.

### Cluster Sampling vs. the Random Walk Method

To achieve this randomization, USAID (2008, 26) suggests taking advantage of a method known as cluster sampling. This requires a sufficient amount of information about individuals and the community. Under the cluster sampling method, the evaluators divide the population into a geographic region subsequently split into sample units. The population would continually be divided until the actual people that will participate in the sample group are selected (USAID 2008, 26). This constant division of population groups automatically randomizes the selection process. However, the process can become complicated, as it

requires a great deal of information about the citizenry of a community and would involve a great deal of resources and time (USAID 2008, 27). Due to limited amount of resources and information available to our team, our team opted to utilize the random walk methodology to achieve randomization.

As the name suggests, in the random walk approach, evaluators simply walk from house to house conducting surveys. Since CW is just entering the country and does not already have a list of current clients, the random walk method is ideal for assessing the overall poverty characteristics of the communities. The validity of the survey decreases slightly because it is not possible to completely randomize the participant selection (USAID 2008, 27). As a result, the surveyors will have to ensure the sample group be representative of the target population. When using the random walk method, surveyors must avoid "tarmac bias" which involves selecting only houses that are easily accessible from the road. To avoid this threat to randomization, the surveying team visited and attempted to survey every third house off of the road.

## Interviewing Clients and Recording Data

After selecting a representative sample group, the capstone team considered how the interview process should be conducted. When performing an interview to collect personal information it is important for surveyors to create the proper environment, introduce themselves, and explain the reason for the interview. The following six steps for how surveyors should introduce themselves to the client are incorporated into the Household Survey (USAID 2008, 33-34): (1) *Reveal your identity*; (2) *Display letters of introduction and endorsement*; (3) *Inform clients of your purpose*; (4) *Explain why the client has been selected*; and (5) *Assure respondents of confidentiality*. During the interviews within Cambodian households, surveyors followed USAID guidelines and articulated each question clearly, listened for relevant information, probed to increase the accuracy and clarity of the data, and never suggested an

answer (USAID 2008, 35). All data was written on the survey form. All evaluators took the proper precautions to protect any personal information revealed during the survey. After all surveys were completed, the collected data was compiled to be ready for any regressions, statistical analysis, or interpretation that may be done for the program evaluation.

## Threats to Validity

The validity of a measure is defined as the extent to which it accurately measures what it is intended to measure (Rossi et al. 2004, 220). The validity of a measure is important because the value of that measure depends on whether stakeholders accept the measure as true. Threats to validity generally include history, maturation, instability, testing, instrumentation, regression artifacts, selection, experimental mortality, and selection-maturation. The major threats to validity for the proposed research design include instrumentation and selection. Instrumentation poses a threat to validity because surveys rely on human beings to measure and record variables. Error can be associated with the human measurements: measuring a variable wrong, recording the wrong measurement, and varying measurements between individuals. Furthermore, there are threats to the validity of the Household Survey because translators were used to conduct the surveys. However, the Household Survey is a proven study that the USAID has refined over the years to reduce the potential for human error. Selection also poses a threat to the validity of the measurements and can only be minimized in the random walk method by encouraging surveyors to ensure they survey a variety of houses.



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# **Baseline Data Analysis**

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## *Findings*

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## Abstract

This report analyzes data collected from Household Surveys, observational records and personal reflections of the surveyors in the potential communities that CommunitiWorks intends to launch its community based microfinance program. The paper provides an analysis of household level data on factors of income, consumption and quality of life. The Community Level Surveys and observational records paint a broader picture of these communities. The capstone team finds, based on the analysis, that health access and lack of service infrastructure are the most pressing concerns in these communities. CommunitiWorks also needs to constructively manage its program and partnerships with nongovernmental organizations already working in these communities.

# Introduction

This report will assess the effectiveness of CW's microfinance program in Cambodia by evaluating the baseline conditions in four pilot communities. This report provides an overview of the living conditions, education, and income and health characteristics of the communities. We will also discuss the survey methodology, the communities and analysis of the parameters used to evaluate what interventions are required from CW. In doing this analysis our team compared the national level statistics available from the Cambodia Socio-Economic Status Survey (CSES) (National Institute of Statistics, Cambodia 2013) with those in these communities. The report also presents the inputs and activities from the logic model report and its relationship to the specific characteristics of these communities. In the later section we discuss the major findings, limitations and possibilities of bias in the data. The last section provides the major recommendations for future evaluations and design of CW's program.

## Data and Survey Methodology

Our team surveyed the communities using a household level survey which records parameters such as income, asset holding, expenditure, education and living conditions. We also interviewed community leaders to gather data for the entire community. Surveyors recorded observations about the conditions of each community in a separate survey (see Appendices E-G). The five communities surveyed outside Phnom Penh are: Akphiwat Mean Chey, KK1, KK2, Krang Angkrong Pei and Phoum Boun. Each survey was randomly administered to homes in these communities, and objective answers of one respondent of the household were recorded as data for the entire household.

Additionally, we used an observational survey to record details about the infrastructure, cleanliness, and appearance of the area. Surveyors also recorded similar observations on the

CVCD schools in each community. We use the observational data to supplement the analysis of the Household Surveys, as the data is difficult to quantify. Community leader surveys are also used to provide a holistic review of the educational availability and infrastructure in schools, health and economy within these communities.

## Sample

**Table 1 Respondent Distribution among Communities<sup>3</sup>**

Community #	1	2	4	5	Total
# of Households Tried	19	8	24	9	60
# of Households Contacted	17	8	17	8	50
# of Households Participated	15	7	15	6	42
Response Rate	88.00%	87.50%	88.00%	75.00%	84.00%
AR <sup>®</sup> Adjusted Response Rate	78.95%	87.50%	62.50%	66.67%	70.00%
ANOVA for Response Rate	F-test (P value)			0.30 (0.8251)	

Our team randomly approached 60 households to administer surveys, but only 49 households responded. Among those who responded, 8 households refused to participate in our survey. Thus, we randomly surveyed 49 households with a response rate of 84 percent. Additionally, we received response rates well beyond the thirty percent level which is the commonly acceptable level of an on-site survey (Institutional Assessment Resources 2013). We exclude from the calculation those households who did not answer our initial contact since they

<sup>3</sup> Note:  $Response Rate = \frac{\# of Families Contacted}{\# of Families Participated}$ . AR<sup>®</sup> Adjusted Response Rate is a technology developed by Answer Research, Inc. It adjusts the response rate with numbers of no responses and not qualified responses (none in our sample).

$$AR \text{ Adjusted Reponse Rate} = \frac{Completes}{Completes + \left( \frac{Completes}{Completes + Not Qualified} \times (Not Contacted + Refused) \right)}$$

were not given the choice to participate. Table 4.1 reports the detail of the respondent distribution among the four communities. The ANOVA result shows there is no statistically significant difference between the response rates in different communities. This implies that our random walk strategy succeeded and the response rates do not systematically vary among communities.

## Sample Characteristics

We reported our sample characteristics in Appendix H. We calculated all the interval or ordinal variables in the table. We reviewed nominal variables in the data analysis section. We reported the mean, median, standard deviation, and the confidence interval at a 95 percent level in the table. We also found that some of our sample data were not normally distributed. Therefore, we used Shapiro-Wilk tests to examine the normality of our sample data, the results of which are reported in Appendix H.

## Categorical Data Analysis

As our program logic model indicates, CW's program will generate four major aspects of impact in the communities: economic sustainability, better quality of life, psychological wellbeing, and better education. Our data analysis will follow this model, and we will use our data and observations to describe the baseline measurements within those communities.

### Economic Sustainability

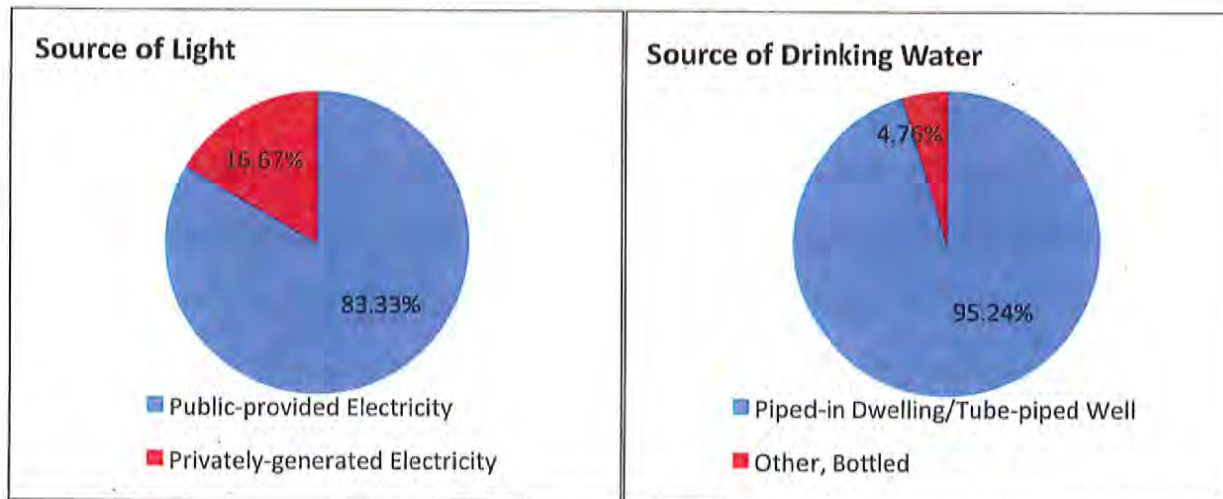
As the program logic model indicates, we have three primary indicators for economic sustainability: community infrastructure, income of the community members, and the small businesses owned by the community members. We surveyed for the same indicators to develop a baseline measurement for future evaluations.

## Infrastructure

We asked two survey questions of the at-home survey that directly relate to the infrastructure within the communities. We asked the households about their sources of light and drinking water. Figure 4.1 illustrates the results. In the survey, 83.33 percent of household reported having publicly provided electricity, and 95.24 percent of households reported having access to piped-in water. In 2008, 87 percent of urban households in Cambodia reported having some access to electricity (World Bank 2011, 104). According to our survey, 100 percent of the population in these communities has some access to electricity. In 2008, 4 percent of Cambodians received electricity by off-grid electricity sources (World Bank 2011, 104). Our data shows that off-grid sources of electricity served 16 percent of households in these communities. Interestingly, this is a higher than average level of off-grid sources of electricity (i.e. private generators or small grids). Although the public electricity accessibility still needs improvement, the private sources have filled those gaps. As for the drinking water access, 87 percent of the urban population in Cambodia had access to improved water source in 2010 (World Bank 2013b). However, the communities we surveyed had 100 percent access to the piped-in water in their houses. Thus, electricity and water supply are not urgent infrastructure needs in these communities. Therefore, we conclude that these communities have a relatively good utility infrastructure compared to national averages.



**Figure 1 Sources of Light and Drinking Water**



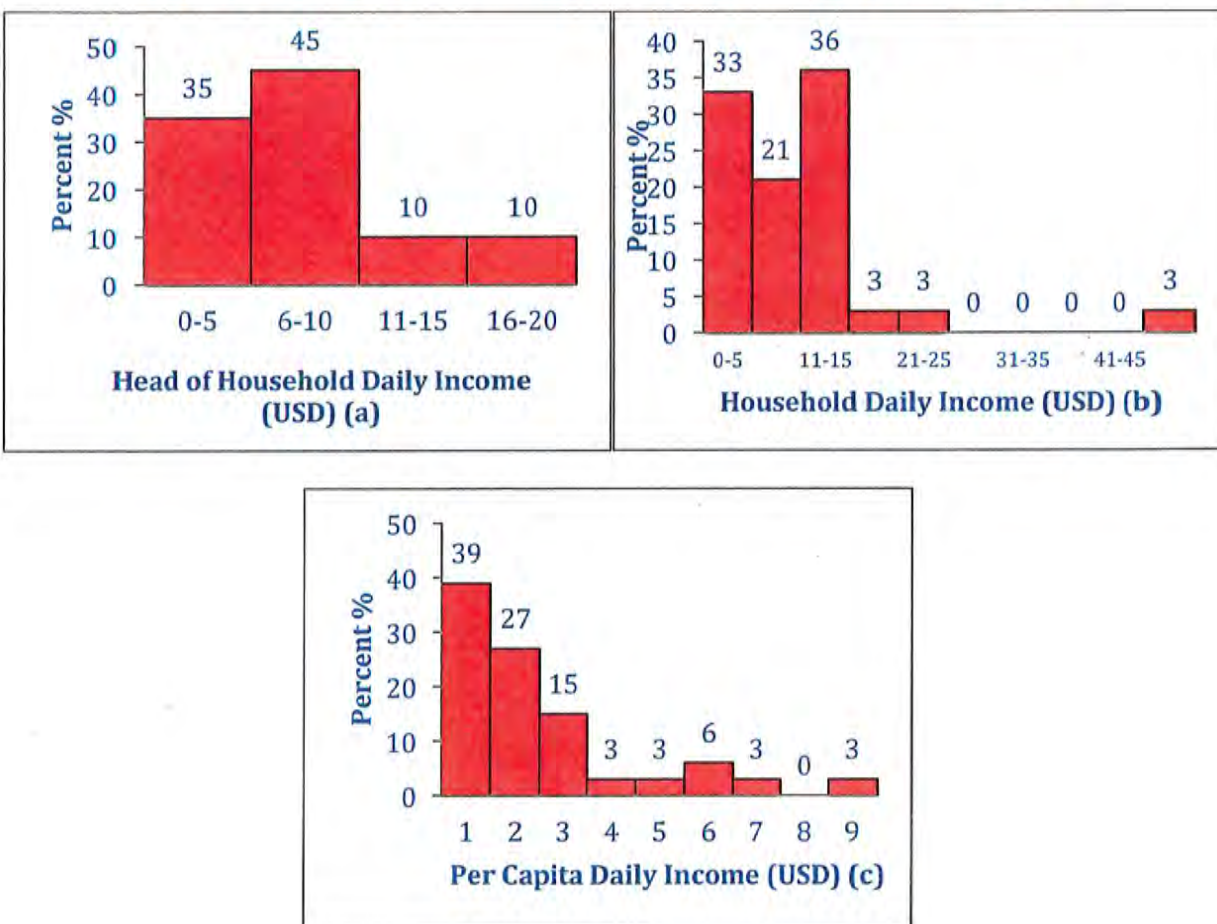
In contrast, we found these communities lack service infrastructure. Our survey asked one question about how the children get to school. The survey responses indicate a lack of public transportation, in these communities. Our surveyors also observed a lack public transportation system in the selected communities.

### Income

We asked two questions about income: the income of the head of household, and the total income from the entire household. Figure 4.2a presents the distribution of the daily income of heads of households, and figure 4.2b reports the distribution of daily household income. We converted the local currency (Cambodian Riel) to U.S. dollars for standardization. We found that 80 percent of heads of households earn less than \$10 per day, and 90% of the households earn less than fifteen dollars a day. The average household income in the surveyed communities is \$8.37 per day; the median income is \$7.50 per day. According to the Cambodia Socio-Economic Survey (CSES), households in Phnom Penh had an average household income of \$15 per day in 2011; the national average is approximately \$7.37 per day (Cambodia National Institute of Statistics 2013). Compared with these figures, we found surveyed communities earn around the national average of daily income; however, they are far below the average of

households in Phnom Penh. This is an interesting finding as it implies these communities are poorer in comparison to urban communities in Phnom Penh, but not among the poorest in Cambodia. Additionally, heads of households have an important role of bringing money to the households. Of the twelve households which reported both household income and head of household income, more than 75 percent of the heads of household bring in more than 50 percent of the total income. Moreover, 56.66 percent of households have a per capita income less than \$2 per day, as shown in figure 4.2c.

**Figure 2 Heads of Households, Household, and Per Capita Income**



### Small Business

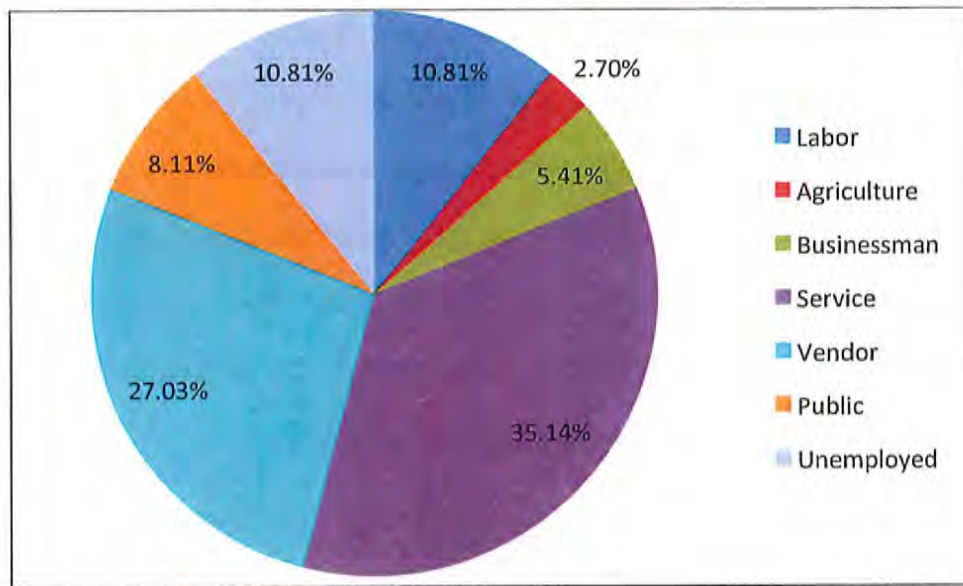
In the at-home survey, we did not directly ask if anyone in the household owned a business, but we did inquire about the occupation of the head of households. Figure 4.3 exhibits

the distribution of the occupation of the heads of households. In the graph, we use six categories to capture the occupations of the heads of households: labor, agriculture, businessman, service, vendor, and public sector. Some heads of households are unemployed.

- Labor captures those who directly reported they hold labor jobs or work for a factory. About 10.81 percent of heads of households fall in this category.
- Agriculture is not a significant occupation in these communities. Only one household we surveyed worked in the agriculture industry since Phnom Penh is an urban area.
- Businessman category represents those who own their own firms; whereas vendor represents those who sell some physical goods for a living. Vendors own what they sell.
- Service captures those who deliver services rather than physical goods, such as hairdressers, singers, drivers etc. We have no further information whether they own the business or work for someone.

Some heads of households work in the public sector as community leaders or policemen. We found more than 32 percent of households started their own business, either as a businessman or a vendor. Those individuals categorized as service have potential to start their own business. For example, tuktuk drivers could buy their own tuktuks, or the hairdressers could own their own barbershops. Thus, more than 60 percent of the households in the communities can start or improve their own business if they had access to capital which the CW's program will provide.

Figure 3 Household Heads Occupation



## Quality of Life

As for quality of life, we identified three indicators: poverty, health condition and access to healthcare, and equity for women.

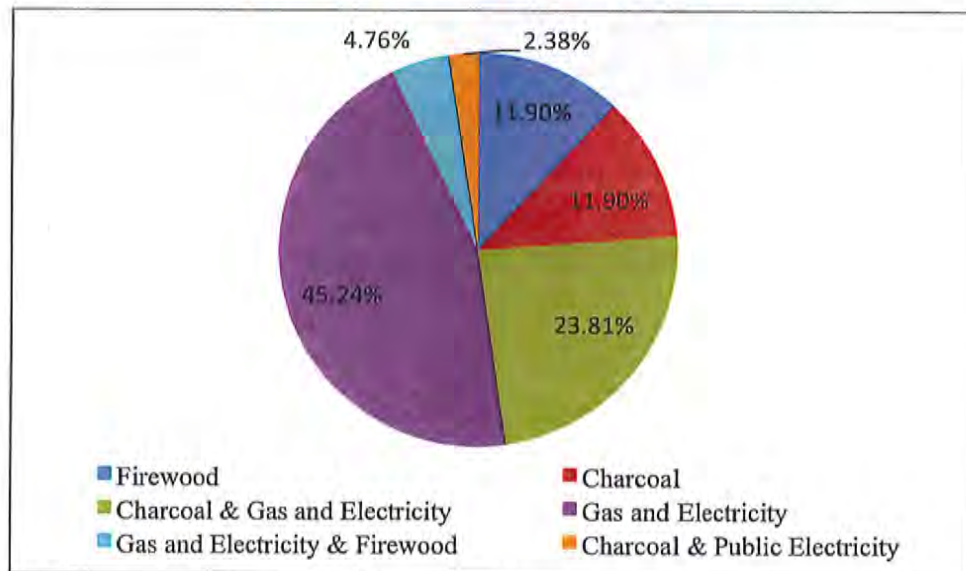
### Poverty

We use several questions to assess the different facets of poverty: cooking fuel, income, nutrition, and assets owned.

Cooking fuel, as an indicator of poverty reflects both what is available and what individuals in these communities can afford. The World Bank (2011) suggests that poor people in developing countries in South Asia have limited access to the modern cooking fuels and rely more on traditional cooking fuels. According to the World Bank (2011, 95), the modern fuels refer to gas and electricity; charcoal and firewood are considered traditional, solid fuels. In our survey 23.8 percent of households relied solely on traditional, solid fuels. In contrast, 71.43 percent of households used electricity in cooking, and 73.81 percent of households used some gas in cooking. The figures do not add up to 100 percent since some households reported using multiple sources of cooking fuel. Compared to the 100 percent electricity accessibility, 71.43

percent of households which utilize some electricity in cooking is an acceptable level in South Asia (World Bank 2011). The World Bank (2011, 104) reported only 37.3 percent of urban households in Cambodia in 2008 had access to modern cooking fuels. In our communities, however, more than 45.24 percent rely solely on modern cooking fuels (i.e. gas and electricity), and more than 70 percent of households have some access to modern cooking fuel. Therefore, we do not find any evidence of lack of modern cooking fuels. Hence, we do not find sufficient evidence of an urgent need for improvement in the supply and use of modern cooking fuels.

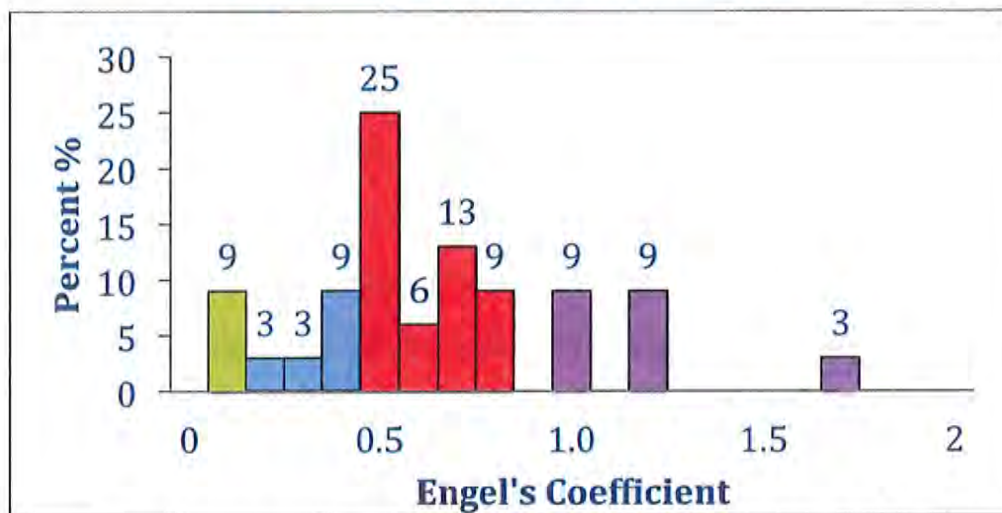
**Figure 4 Cooking Fuel Distribution**



To expand the analysis on income data, we used an Engel's coefficient analysis. Engel's coefficient represents the ratio of food expenditure over the total expenditure. However, since we did not collect the total expenditures of the households, we use an approximation of the Engel's coefficient. Our surveyors observed many households just made enough money to cover their basic living costs. Therefore, using the ratio of food expenditure over the total income to calculate the Engel's coefficient is appropriate in this case. According to the FAO criterion (Ma & Wang 2009), an Engel's coefficient beyond 59 percent signifies poverty, and 50-59 percent signifies just enough income for food and clothing. An Engel's coefficient less than

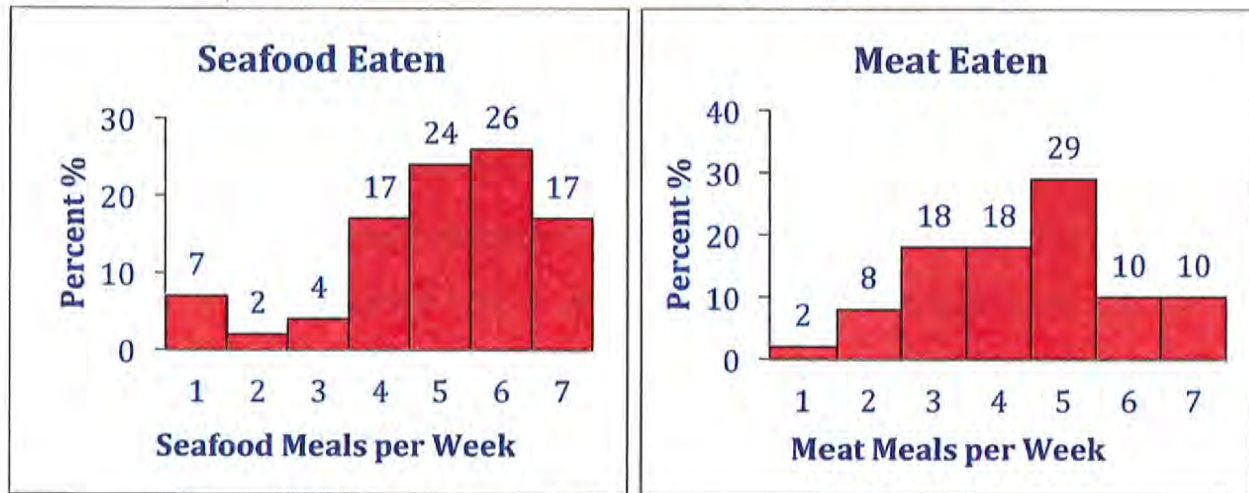
30 percent signifies affluence. Figure 4.5 reports the Engel's coefficient within the communities. We found that the data is not normally distributed. 13 percent of households can be categorized as the most affluent ones; whereas, 50 percent of the households are in the poverty category, and 25 percent of the households can barely cover their food and clothing. Surprisingly, about 22 percent of the households reported an Engel's coefficient larger than 100 percent. This indicates they either reported something incorrectly, or they borrow money for a living. In addition, we found that those four communities have a similar level of Engel's coefficient. This implies these four communities experience about the same level of poverty.

**Figure 5 Engel's Coefficient Distribution**



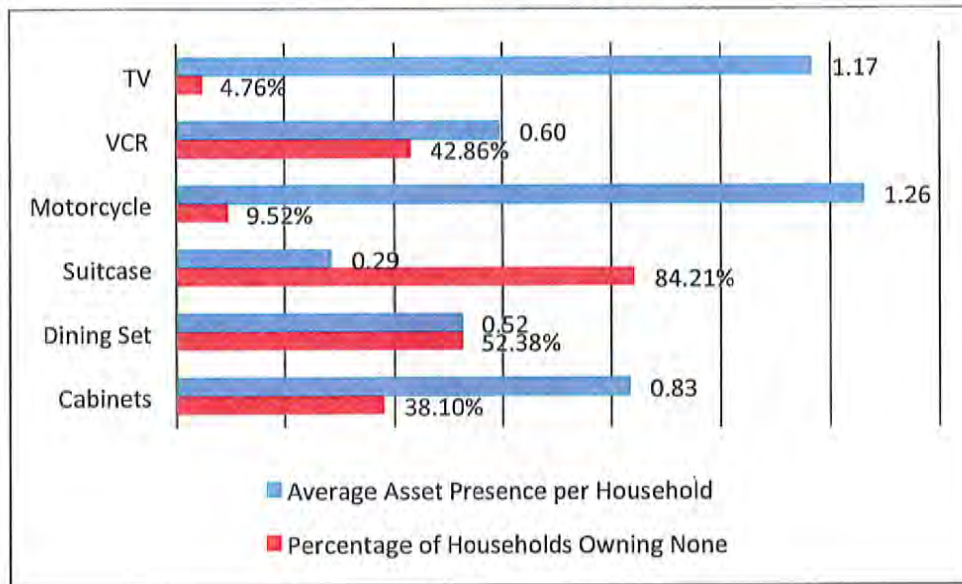
The third aspect of the quality of life analysis measures nutrition intake. We asked two questions about the frequency of meat and seafood. (primarily freshwater fish) meals the households had per week. On average, the households reported they had 3.5 meals with meat and 4 meals with seafood. There could be overlap if they had one meal with both meat and fish. Figure 4.6 exhibits the distribution. This is a good level of protein consumption in comparison to their incomes.

Figure 6 Nutrition Intakes per Week Distribution



The last aspect in the Quality of Life Analysis measures the assets owned by the households. Our survey asked one question about the ownership of dwellings and six questions about ownership of luxury assets by households. We found 69.05 percent of households own their dwellings. The others rent their dwellings, and the mean rental is \$32 per month. The ownership of dwellings seems to be optimal in these communities. However, as our surveyors observed, some of the households own only the dwellings but not the land where their dwellings stand. An important indicator of poverty is ownership of luxury assets by the households. We investigated six categories of luxury assets: television, VCR, motorcycle, suitcase, dining set, and cabinets or wardrobes. Figure 4.7 illustrates the ownership of luxury assets at the household level. The mean of each asset held by the households do not exceed 1.5. Additionally, Figure 4.7 provides the percentage of households which does not own these assets. More 30 percent of households in the chosen communities do not have a VCR, suitcase, a full set of dining suit, and cabinets, which reflects prevalence of poverty within the communities.

Figure 7 Luxury Assets

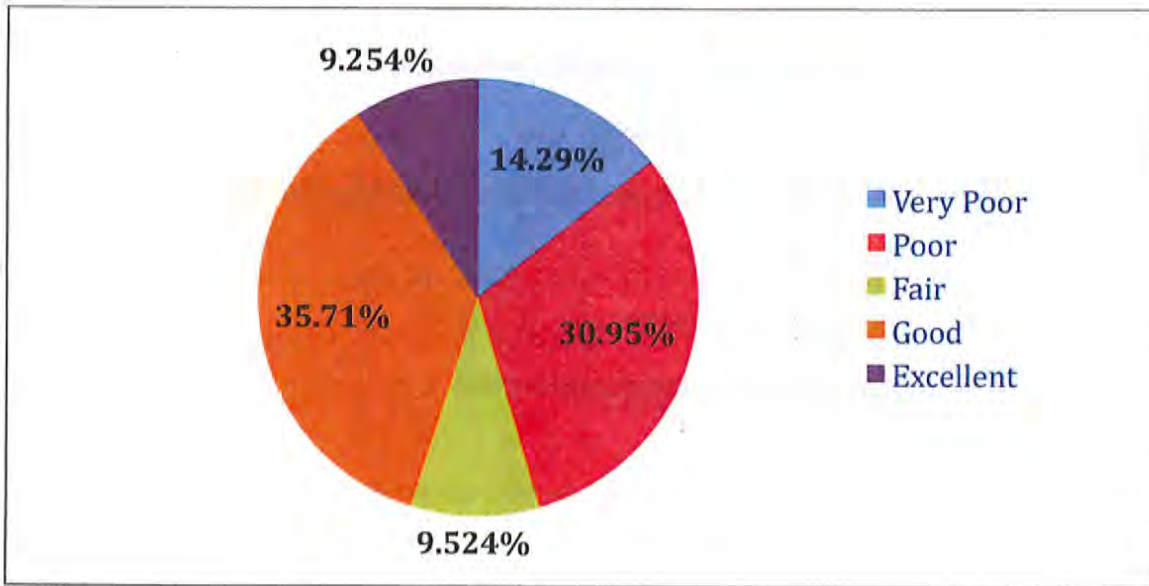


### Health Condition & Access to Healthcare

An important indicator for the quality of life is health. We asked the respondents their opinions on their health conditions: 45 percent of people reported their health conditions are poor or very poor. About the same percentage of respondents reported their health conditions are good or excellent. We also compared the data across the communities. We cannot use a simple t-test method to compare the data across communities since we found the data are not normally distributed. However, according to the Shapiro-Wilk test, the data for the overall health status was not normally distributed among our sample. We use the Kruskal–Wallis test to examine the sample, and found there is no statistically significant difference in overall health status among the communities. We tried to use age and gender difference to interpret the t-test result; however, we found no supportive evidence. We found that not having a large sample from each community could be a contributing factor for this anomaly.



**Figure 8 Self-reported Health Conditions**



**Table 2 Health Conditions by Community<sup>4</sup>**

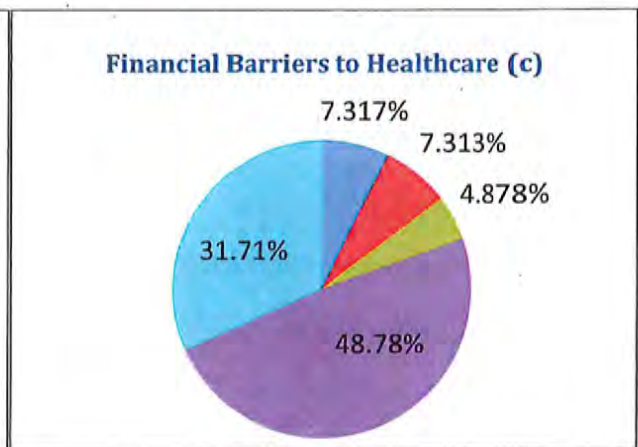
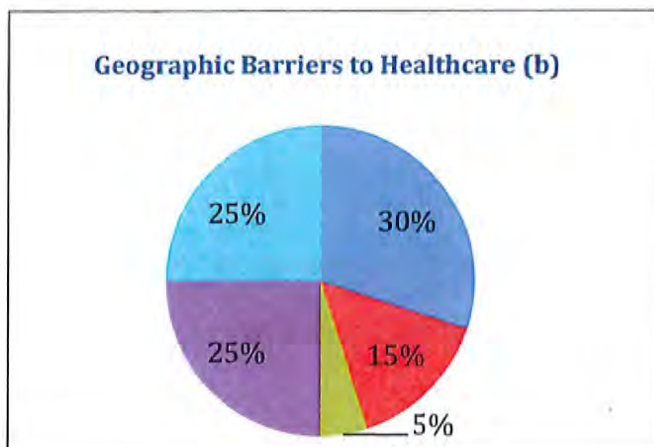
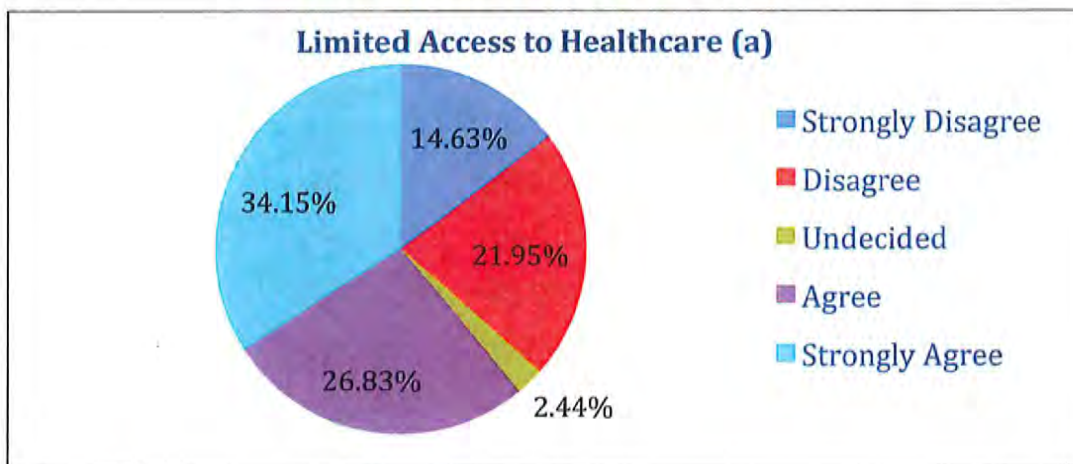
Community	1	2	4	5	Overall
Health Condition	3.5000	1.8571	3.0667	2.6667	2.9524
T Score	2.0106	-4.1993	0.3619	-0.3759	
(P Score)	(0.0656)	(0.0057)	(0.7228)	(0.7224)	

We asked the households their opinions on accessibility of healthcare services. Overall, 60.98 percent of the respondents recognize some limitation on the access to healthcare services. After we investigated the answers of the entire community, Community 4 reported the most limited access to healthcare services. Approximately 80 percent of the respondents recognized there are financial barriers for healthcare services. Between each community, we did not perceive a significantly higher rating on financial barriers. Only Community 4 has marginally higher than the average on the financial barriers rating. This implies the four

<sup>4</sup> Note: The rating is from 1 "very poor" to 5 "excellent".

communities suffer from similar financial pressure for the healthcare services. In our survey, 50 percent of the respondents reported geographic barriers to reach healthcare services. Additionally, the results reported no significant difference of the sample compared with the national average. Only Community 4 fared marginally higher than the average on the geographic barriers rating. This implies there is no geographic inequality within those four communities. However, 50% of the respondents suffered geographic barriers to healthcare services. Some respondents reported they received free healthcare services from USAID, and USAID coordinated transportation for them. Thus, they do not perceive barriers to healthcare services.

**Figure 9 Access and Barriers to Healthcare**



Additionally, we conducted a correlation analysis and found interesting results regarding health status and limitations to healthcare services. First, financial barriers to healthcare show a significant correlation with the limited access to healthcare, whereas geographic barriers are not significantly correlated with the limited access to healthcare. This indicates a financial barrier is a more significant factor which contributes to the limited access to healthcare services. Moreover, financial barriers are not correlated with geographic barriers. Second, health status is not correlated with any of the three healthcare service access or barrier indicators. Although this result is hard to understand intuitively, it sheds light on the point that the limited access to healthcare is an objective issue. People's health statuses do not affect their feelings about the limited access to healthcare services.

**Table 3 Access and Barriers to Healthcare by Community<sup>5</sup>**

Community	1	2	4	5	Overall
Access	3.0769	3.0000	4.2000	2.8333	3.4390
T Score	-0.7882	-0.7113	2.9061	-0.8613	
(P Score)	(0.4459)	(0.5036)	(0.0115)	(0.4284)	
Financial Barriers	3.7692	4.0000	4.2000	3.3333	3.9024
T Score	-0.3887	0.1826	1.4880	-0.9259	
(P Score)	(0.7043)	(0.8611)	(0.1589)	(0.3970)	
Geographic Barriers	2.7500	2.5714	3.4000	3.0000	3
T Score	-0.4527	-0.6255	1.1034	0.0000	
(P Score)	(0.6595)	(0.5546)	(0.2885)	(1.0000)	

### Equity for Women

Our surveyors did not directly ask questions regarding women's rights. However, we obtained some indirect evidence that the women actually have more power than we think in the

<sup>5</sup> Note: The rating is from 1 "strongly disagree" to 5 "strongly agree" to the statement about limitation on access to healthcare, the existence of financial barriers, and the existence of geographic barriers.

households. Our surveyors found women actually have the budgetary power of the family. Moreover, as Table 4.2 indicates, 26.81 percent of households are headed by women, slightly higher than the national average of 22.7 percent in 2011 (Cambodia National Institute of Statistics 2013). Therefore, we perceived a slightly higher percentage of households headed by women, but it is not significant at the 5 percent level. USAID (2013) also indicated nearly 65 percent of businesses in Cambodia are owned by women.

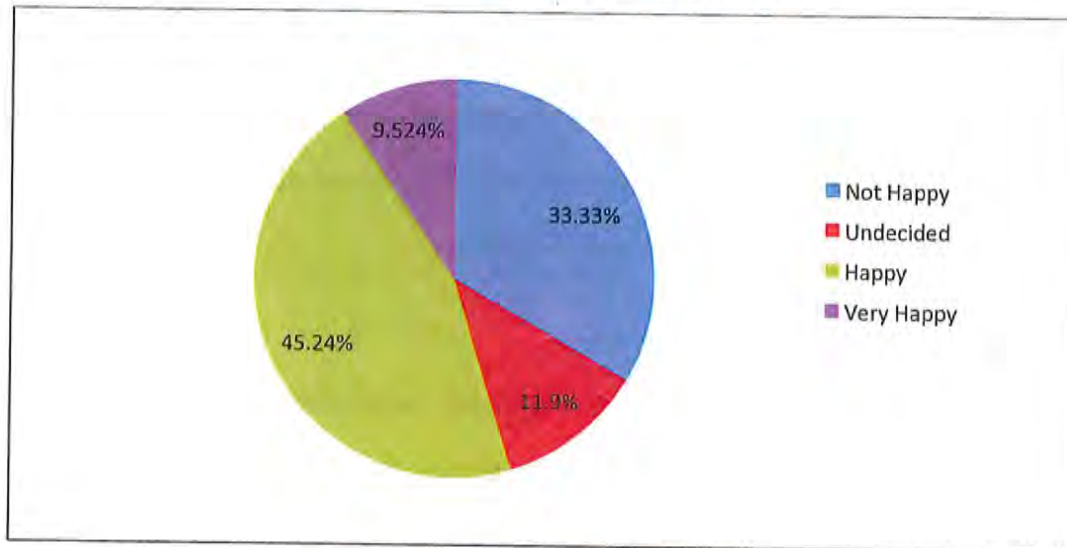
## Psychological Wellbeing

We assessed the psychological wellbeing of the community in two aspects: happiness and optimism. Originally, we designed about five questions for each aspect; however, the nature of some of the questions did not translate well to the respondents. Therefore, our surveyors omitted some questions in the survey. These questions include whether an individual is happy or unhappy by nature and whether an individual likes his or her personality.

### Happiness

Approximately 54 percent of the respondents reported they are happy or very happy. One third of them reported they did not feel happy. As for each community, we found Community 4 is happier than average; Communities 2 and 5 are less happy than the average. We compared this data with the distribution of income and health conditions among the communities and found some interesting results. We will report them in a later section. (See Supplemental Findings from Correlations Analysis)

**Figure 10 Happiness Distribution**



**Table 4 Happiness by Community<sup>6</sup>**

Community	1	2	4	5	Overall
Happiness	3.4285	2.4286	3.867	2.6667	3.4390
T Score	0.4090	-2.9623	2.5880	-1.9285	
(P Score)	(0.6892)	(0.0252)	(0.0215)	(0.1117)	

### Optimism

To gauge respondents' optimism, we asked five questions about confidence, expectations for their children, perception on the position of the average man, control of their own destiny, and perception of their financial position. The survey reported several findings: around 33 percent of the respondents lacked confidence; 84.21 percent of the respondents were optimal about their children's future; 65.22 percent of the respondents thought the lot of the average man was getting worse; 47.62 percent of respondents reported they had control of their destinies, and 33.33 percent of them did not. Approximately 64 percent reported they were

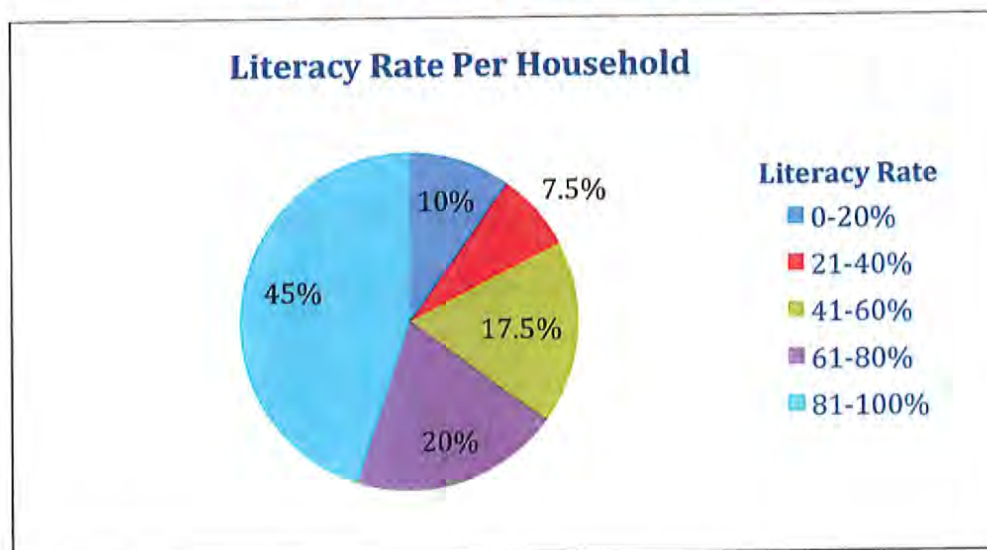
<sup>6</sup> Note: The rating is from 1 "Very not happy" to 5 "Very Happy".

financially better off than the previous year, and 26.19 percent reported they were worse off. The results of the optimism indicators varied, making it difficult to draw any sound conclusions. (See Appendix H for details)

## Education

We assessed education primarily in the Community Level Survey. Our surveyors found each community had one CVCD school, although the infrastructure for some schools needs substantial improvements, especially in the plumbing system. We will discuss this in detail in the next section. In the at-home survey, we primarily assessed the literacy rate and education expenditures. Figure 4.11 exhibits the literacy rate distribution. Forty-five percent of the households have a literacy rate over 80 percent, and 7.5 percent of the households are completely illiterate. The mean literacy rate for the four communities is 66.07 percent. This is consistent with the average rate of Phnom Penh of 68.4 percent, but significantly higher than the national average rate of 58.6 percent (Cambodia National Institute of Statistics 2013). Thus, the literacy rate in those communities is near the average national level.

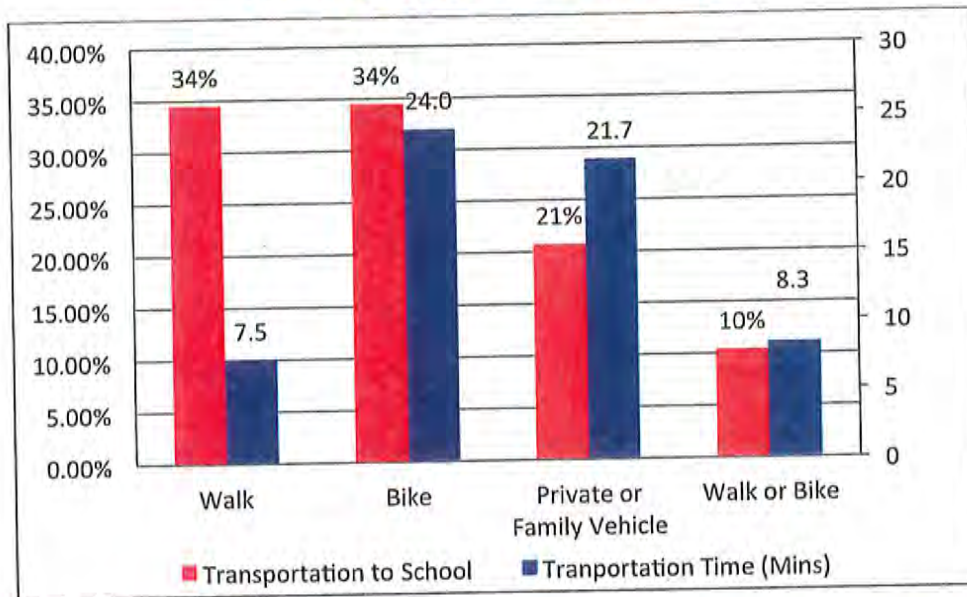
Figure 11 Literacy Rate Distribution



We asked the respondents about their children's annual education expenditures. The Community Level Survey reported the annual expenditure for CVCD schools is around \$2.5 per child. However, teachers in Cambodia charge the students with extra hour fees and teach the real courses in those "extra hours." Here, "extra hours" refers to the private sessions teachers provide after school. As a piece of supplemental evidence, CSES found over 12 percent of students in primary schools, 40 percent of students in lower secondary schools, and 71.7 percent of students in upper secondary schools take "private" lessons after school (Cambodia National Institute of Statistics 2013). The respondents calculate those expenditures as the daily education expenditure. Some respondents also might include their child's lunch cost. The mean of those daily expenditures is \$0.80 USD per child.

We also investigated the children's transportation to schools. There are primarily three modes of transportation: walking, biking, or taking their family's private vehicle. Figure 4.12 shows the percentage of households which use different transportation methods to send their children to school, and the average time the transportation costs. Interestingly, 33.48 percent of respondents have their children walk to school, and it takes the least amount of time. Those who bike or use private vehicles take more time to get to school. Our surveyors suggest the education system structure causes this difference. The children in primary school attend the CVCD schools which are located within the communities, so they can easily walk to school. In contrast, children in secondary school attend public or private schools which are located outside of their communities, and they must use either use a bike or vehicle to get there.

Figure 12 Transportation to School



## Supplemental Findings from Correlation Analysis

In addition to the correlations previously mentioned, we found several interesting findings that cross the boundary of the impacts. Therefore, we report them in Appendix I aside from the impact categories.

A respondent's happiness has a variety of determinants. The happiness indicator is significantly correlated with occupation. The service providers (e.g. hairdresser, waiters, and so forth) are generally happier than the vendors (e.g. food vendors) and the public servants (e.g. military, police officer). This is interesting since happiness is correlated with income and income is correlated with occupation. Vendors are generally the highest income group; however, they are among the lowest happiness group. Additionally, happiness is also correlated with the average assets of luxury items. In other words, higher accumulated wealth also contributes to higher happiness. However, there are more determinants of happiness. Additionally, we found that happiness is associated with the quality of food consumption as the number of meals with seafood or meat is significantly correlated with happiness. People who have more seafood or



meat seem to be happier. Moreover, we found that self-reported health status is correlated with happiness. Healthier people are generally happier.

Engel's Coefficient is correlated with the income of the head of household due to its definition. However, it is not correlated with the average assets of luxury items. Intuitively, it is hard to interpret, since the head of household's income is significantly correlated with the average assets. There are two possible explanations. First, household income is not stable, but in a good economic environment they can make money and spend it on luxury items. Secondly, even the wealthier families make food consumption decisions based upon their current income rather than their collective wealth. Interestingly, Engel's Coefficient is negatively correlated with self-reported health status. Poor people tend to be unhealthier. It also sheds some light on the expenditure structure of the household: the households which spend more on food have less to spend on health. This results in a poorer health status of the household.

We also found that the geographic barriers to healthcare are negatively correlated with the average assets of luxury items. We dug a little deeper and found that the recognition of a geographic barrier is strongly correlated with the possession of motorcycles. People who have motorcycles do not perceive a significant geographic barrier. From another perspective, this correlation indicates the lack of public transportation services for those communities. If people had used other affordable, expedient methods of transportation to the hospital, their opinion about geographic barriers to healthcare services might not have held a strong correlation with the possession of motorcycles.

## Observation Survey Results

CommunitiWorks has identified five potential communities for their project outside of Phnom Penh for their program: Kork Khleang Mouy, KK1, KK2, Krang Angkrong Pei, and Phoum Boun. The team visited these five communities and conducted household level surveys

to measure indicators of health, education, household structure and income. In addition to these surveys, the team also observed the households and their nearby surroundings in order to understand the general state of living in these communities. Most of the observed characteristics include housing structure, roads, cleanliness of the house, appearance of the children and the nearby streets etc. These indicators helped us understand the most essential needs of the people and shed light on the living conditions and structure of society in these communities. The team observed many households in all communities except Community 3: KK2. Details were noted on source of electricity, water, cleanliness and health of children, major construction material, prevalence of smoking, condition of the roads, etc.

## Infrastructure

In comparison, Community 1 and 4 fare better than Community 2, 5. Most households have metal or tin roofs, concrete or tile flooring and brick walls. The communities have electricity publicly supplied, and water supply piped in. The surveyors could not observe provision of toilets inside the house, but this could be a limitation of our surveys to measure an important indicator of the sanitary conditions in the community. The conditions characterize poor sanitary conditions and lack of adequate infrastructure in the households of these communities. Hence, in the design of this program we discuss building small infrastructure in the communities as a short term impact component of the logic model.

The surveyors also observed a lack of paved roads. In one of the communities, the only link to the main road is a small bridge which was very shaky and could not hold heavy vehicles to cross over. Community 5 has an active railway track next to the houses and does not provide a hospitable environment for development.

## Health and Sanitation

The children in Communities 1 and 4 appeared healthy, while most children were skinny or malnourished in the other two communities. Most children were clean and clothed, but remained barefoot, due to negligence or lack of knowledge of the importance of shoes for safety and prevention of communicable diseases. Similarly, Communities 1 and 4 had minimal trash, but a higher prevalence of trash on the roads was observed for the other communities. These observations indicate the lack of knowledge, resources of nutrition and sanitation among community members, so in the program design we identified the need for health education in the short run.

The observations were also made at the school level on the infrastructure, cleanliness, size of classrooms and instructional material being used.

- **Community 1** had one CVCD run school; it had concrete floors, one classroom, one bathroom, and a combination of wood and brick exterior. The total school enrollment was 119 students for grades one through four, with equal participation of female students. Some students reported to be working while in school.
- **Community 2** had one CVCD school with an average enrollment of 100 to 150 students. The school had concrete floors, a nice brick exterior with fresh paint, two classrooms, one bathroom, and a small computer room and library.
- **Community 3** had a CVCD run school which was relatively small and crowded. The school consisted of one classroom with concrete floors and a painted brick exterior. More than 30 percent of students were reported as working along with school. This school had an enrollment of 147 students.
- **Community 4** had one CVCD school with a total school enrollment of 63 students. The school is a one classroom wooden building with concrete floors and a tin roof. The school is not very crowded and provides English lessons. The leaders reported food was available for

children but was not very nutritious, so they remain malnourished.

- **Community 5** had a CVCD school, with a total of 44 students enrolled. The school is a one room wooden building with concrete floors that opens onto an alleyway. The classroom has few windows, no fans, and was reported to be very hot by the observation team. Community leaders report that during the rainy season the community floods and the alleyway outside the school floods with rain water and sewage that the children must walkthrough to get to school. In most of the team's discussions with community leaders, they reported children could read when they reached grade 5 but still remained marginally unemployed and worked in unskilled jobs. CVCD spends \$2.50 per year per child. Health vaccines were administered to the children once every four months by a health worker at the clinic.

## Major Findings

Important findings from the data analysis:

- The people in the surveyed communities are poor as residents of Phnom Penh; however, their income is just above/about the national average level of Cambodia.
- More than two-thirds of the respondents work or have a business in the service industry.
- The utility infrastructures like electricity and water supply in the surveyed communities are better than the national urban average, but other infrastructure like sewage and public transportation, is absent or in an abysmal state.
- The people in the communities are happy but not quite optimistic about their lives.
- Health conditions are polarized. There are some healthy households as well as sick families, so not much inference can be made from the data provided.
- Healthcare provision is limited in the surveyed communities, and this reflects the most urgent need of the surveyed communities.
- Finance is a primary barrier to access the healthcare services.

- CVCD schools provide education services in the surveyed communities, and not many public schools present inside the communities. Students walk to these schools, and, due to lack of public transportation, most students do not attend public schools.
- Education quality may be a concern as the schools are ill-equipped and made out of temporary structures with no toilet provision.
- There is a complete lack of public transportation facilities in these communities. The households reported lack of school busses, shuttle in the communes to send kids to public schools.

## Limitations

Important limitations of the baseline study:

- Workers from CVCD who acted as translators accompanied our surveyors, which is problematic since the workers may have introduced the surveyors to respondents as if they work with CVCD rather than CommunitiWorks. The presence of CVCD influenced their responses to the surveys.
- Our translators did not read the script as printed in Khmer and may not have relayed entire responses to the surveyors during interviews. This could be particularly problematic, especially in questions regarding the psychological impacts.
- Some of our questions did not translate well. For example, Questions #27 and #28 on the at-home survey were confusing for the participants and translators.
- We did not anticipate that the individuals in those communities are primarily paid on a daily basis. Our monthly income questions always get daily income answers, which hinders the precision of our analysis.
- There is a likelihood of over and under-reporting expenditures.
- We have limited confidence of external validity of the baseline statistics as the communities

we surveyed have been present for more than 10 years, so they have well established community elders and infrastructure. For any recently relocated communities the governance and infrastructure may be very different.

## Recommendations

Recommendations based on the findings and limitations:

- Survey Strategy: CommunitiWorks needs a professional team of translators to maintain neutrality in the survey results. They need to establish close relationship with local universities to reduce culture barriers and cost of surveys.
- Survey Questions: The survey should have some questions about current microfinance borrowings and how they have been used.
- The survey needs to record respondent's family gender composition and age group to measure specific results which may be gender and age specific.
- The survey questions need to differentiate primary, secondary and higher education attainment, availability, expense and performance to measure the impact of microfinance on education achievement in the communities.
- The survey questions should measure employment and job type of all family adults, not just the respondents, to estimate the needs of finance in the communities.
- The survey needs a more complete scale for psychological wellbeing.
- Health care was examined well in the Household Survey, but more questions need to be asked on availability/ reliability of doctors in or near the community to help health partners understand the most pressing health issues.
- The survey should assess communities on other public infrastructure, like sewage and reliability of electricity, not just availability of sources of water and electricity.

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# **Future Action for CommunitiWorks**

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## *Recommendations*



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## Abstract

As CommunitiWorks moves forward, organization leaders must consider how to strengthen their program model. This report provides specific and actionable recommendations for CW in the following areas: Cambodia program operations, improved partnerships, refined CW model, refined evaluation of impacts, and special considerations and external factors. We recommend that healthcare provision be a priority within the target communities, given the substantial need which exists. We find that inability to afford healthcare is a primary barrier to access and, as such, recommend that CW identify a healthcare partner who can meet the needs of the target communities. Given that few public schools exist in the communities, Cambodian Volunteers for Community Development (CVCD) plays an important role in education. The relationship between CW and CVCD must be defined and formalized in order to achieve education goals. Moreover, controls and systems of accountability are necessary in order to improve education delivery. Finally, the loan process, rate, and delinquency policies must be defined. This will contribute to successful program implementation and encourage donor support.

# Introduction

As CommunitiWorks plans to begin its operation in Cambodia, the organization's leadership should consider program strengths and weaknesses. This report outlines recommendations relevant to CW's efforts in the following areas: Cambodia operations program, improving partnerships, refining the CW model, refining the evaluation, and special considerations and external factors. Our Capstone team based these recommendations upon our research, interviews with CW leadership, on-the-ground experiences in Cambodia, interaction with program partners, and extensive team discussion. The recommendations represent specific areas in which CW can take action to expand its impact.

## Refining Efforts in Cambodia

The following recommendations pertain specifically to CW's efforts in Cambodia:

### Improve Programs

1. **Consider whether or not the selected communities fit the type which CW targets.**

Our team found while the residents in the selected communities are poorer residents of Phnom Penh, their income approaches the national average of Cambodia. CW may seek to target communities different than Akphiwat Mean Chey, KK1, KK2, Krang Angkrong Pei, and Phum Boun. The recommendations in the section assume that CW will implement their program in the communities surveyed.

2. **Focus on health, the greatest challenge to the target communities.** Each community assessed is significantly challenged by poor health and a lack of available resources. Our team finds that the primary challenge is the lack of healthcare resources, while a secondary cause is limited financial resources. Health plays a significant role in improvement of living standards. If unable to confront this challenge independently, CW

can partner with a health-related organization to address these challenges of the target communities.

3. **Focus on improving health and education for women.** The most significant disparities between men and women in the communities assessed include health, education, and, to a lesser degree, economic development. Our team finds that families are generally more likely to keep female children at home to attend to family needs. We believe that women can benefit greatest by the additional provision of health services and educational opportunities. Such services may include a community clinic offering general medical and disease prevention services.
4. **Ensure that all children in each community have access to education.** Our team found that lack of transportation presents a barrier to education attendance when schools are located outside of the immediate community. As such, primary and secondary education within the community is essential. If this is not possible, ensure that transportation alternatives are considered.

## Improve Partnerships

The following recommendations detail improving partnership improvements and partnership management practices:

5. **Define the relationship with Cambodian Volunteers for Community Development and other program partners.** Based on experiences in Cambodia, our team found CVCD is not well informed about CW's efforts and no strong relationship exists. We recognize this may result from the fact that program implementation is in its earliest stages, but we believe a well-defined relationship between CW and CVCD, as well as all other partners, greatly benefits CW, the partners and enhances program efforts. This

can be achieved through contractual agreements and memorandums of understanding, citing clearly the role of each entity in addressing specific needs.

6. **Recognize CVCD's efforts in providing education.** Our team found that public schools are rare within the communities. As such, CVCD provides most education within the communities. CVCD plays an important role in education and contributes significantly to the program model.
7. **Develop a formal partnership with Royal University of Phnom Penh.** Given the resources available, CW can benefit from a formal relationship with the university. In conjunction with their potential to aide future evaluation efforts, the university may provide insight, feedback, and resources to overcome challenges. Additionally, a formal relationship may increase program credibility for external stakeholders.
8. **Identify a healthcare partner who can meet the needs of the target communities.** As previous noted in recommendation number 3, healthcare is one of the greatest challenges for the target communities. A credible healthcare partner increases the chances that CW's model will achieve its desired outcomes.
9. **Focus less on utility infrastructure.** We found that some improvements to water and electricity infrastructures are already underway in the target communities. It may be wise for the community council and the in-country director to focus less on utility infrastructure, and more on road, education, and health infrastructure.

## Refine the Model

### Improve the Approach

The following recommendations detail refining CW's model implemented in Cambodia or elsewhere:

- 10. Define how the CW model will operate.** The program logic model and report seek to define the CW model, but some ambiguity is still present. This is, in part, due to the fact that CW has yet to finalize aspects of their program. CW's model is not clearly defined in some areas, including those involving partnerships. We recognize that CW's current efforts are experimental and, as a result, the final model has yet to be determined. Once CW decides how their model will work, we believe it will be beneficial to use logic models and strategy maps to clearly define program structure. These tools can be presented to key organizational stakeholders, primarily contributors, as a means of sharing CW's vision.
- 11. Adapt the program model based on the community.** We see CW's model as flexible and easily adaptable to different circumstances, particularly given that the community councils may spend the funds as they see fit. CW can emphasize this strength as they expand program efforts in differing environments.
- 12. Implement controls and systems of accountability to improve education delivery.** Our team finds teachers often educate students outside of normal school hours for a fee to earn supplemental income. As such, time and resources are underutilized. While CVCD may maintain responsibility, CW can play a proactive role in establishing controls and systems of accountability to maximize learning time and financial resources.
- 13. Define the loan process, rate, and delinquency policy.** Establishing a flexible delinquency policy and offering professional financial management or entrepreneurship education for the borrowers will support the program's success and build its image.
- 14. Add accountability to the education requirement for the children.** The loan recipients must send their children to CW's partners' education programs or to community public schools. However, we do not see any enforcement or monitoring

mechanisms. The quarterly report from the education partners may not come frequently enough for CW to track the education enrollment and attendance of these students.

**15. Add specific services to attain psychological change.** Though CW desires to increase the psychological wellbeing of members of the community, few activities appear to directly contribute to such goal. Providing mental health services may help achieve the desired psychological impact. Psychological services, including counseling and social skill development, can supplement the educational programs for both children and adult borrowers. These services can foster their sense of community and traditional culture.

**16. Monitor community council decisions and advise them; particularly in the early stages of program efforts.** Given the experimental efforts of the model, monitoring and accountability mechanisms are necessary. The in-country director should serve as the advising expert in this regard. In order to achieve this, define the role of the in-country director in the early stages of the community council's activities.

## Improve the Evaluation

The following recommendations detail refining future program evaluation efforts:

**17. Utilize a professional team of translators for future survey evaluations.** Informal translators can alter both survey questions and responses. Using professional translators will reduce the occurrence of error in survey results. Establish close relationships with local universities to reduce cultural barriers and cost of surveys.

**18. Future evaluation surveys should include the following changes:**

- Include questions about current microfinance borrowings and their use.
- Record respondent's family gender composition and age group to measure gender

and age specific results.

- Differentiate primary, secondary and higher education attainment, availability, expense and performance to measure the impact of microfinance on education achievement in communities.
- Measure employment and job type of all family adults and not just the respondents to estimate the needs of finance in the communities.
- Address the question of child labor e.g. -how many children in the family work alongside studying.
- Include a complete scale or a well-established scale for psychological wellbeing, such as a Likert scale.
- Include questions regarding the availability of doctors in or near the community to help health partners understand the most pressing health issues.
- Assess communities on other public infrastructures like sewage and reliability of electricity in conjunction with the availability of water and electricity.
- Include questions on the existence of toilets inside the household to measure levels of poverty.

## Special Considerations and External Factors

Our team presents the following considerations for CW's program implementation in Cambodia and other countries:

1. **Working with the Cambodian government takes time.** Our team learned requests and communication with the Cambodian government, as well as U.S. officials working in Cambodia, often takes longer than desired. As such, be conscious of the time necessary



to work with government officials. Additionally, develop a working relationship with one or more specific government officials to increase access to government resources.

2. **Times of election present challenges to entering the communities.** During these periods, CW may experience challenges with program implementation, as well as monitoring and evaluation efforts. Given the political unrest in Cambodia, community members are often less receptive to organizations external to their community. As such, avoid major program changes and survey efforts, as unnecessary challenges may arise.
3. **Develop a dynamic and transparent organizational website.** We believe that CW can benefit greatly by investing in a comprehensive, dynamic website. While CW may not currently have the capability to do so, this may be a wise future investment for the organization. We also strongly recommend that the organization make available financial statements and the organization's IRS Form 990. Such practices increase organizational credibility and program legitimacy. Additionally, make available a link on the home page where prospective donors can visit and immediately contribute to the organization. Finally, provide greater information on current program efforts, as well as a potential timeline for program implementation.
4. **Consider professions in the communities CW will engage and formulate microfinance objectives based around those professions.** Survey results imply that in these communities, community members are mainly employed in the service industry. This includes the selling of foods, providing transportation, serving at food establishments, and other service jobs. CW must adapt its microfinance objectives to prepare for these positions. In these specific communities, CW cannot provide microfinance expecting recipients to produce and sell crafts abroad; these community members are not creating and selling crafts currently. One option is to help promote and initiate the manufacturing of local crafts to sell abroad.

5. **Share this report with CW's partners and stakeholders.** CW's partners will gain a greater understanding of their specific role within the program model and goals. Additionally, CW's stakeholders, including funders, can see the anticipated impact of their investment and realize CW's ongoing efforts to improve their program model. This may contribute to stronger relationships with partners and increased repeat-investments by program stakeholders.

## Moving Forward

Our Capstone team conducted a baseline assessment of conditions in five communities in and surrounding Phnom Penh. After CommunitiWorks staff implements the unique approach of community-based lending, they should evaluate the program's impact on individual households and on each aggregate community. The Logic Model Report assesses impacts according to a one-year three-year, and five-year timeframe otherwise known as short-term, medium-term and long-term impacts. CommunitiWorks should evaluate its impact along a similar timeframe. Ideally, to measure impact accurately CommunitiWorks should establish a randomized control experiment. To do so, they should randomly select some communities as control communities, those in which the organization does not establish a community-based lending program (intervention), and experiment communities, those in which the organization introduces community-based micro-financing (Rossi 2004, 239). For example, CommunitiWorks could implement their model only in communities 1, 4, and 5 which would be the treatment communities and allow communities 2 and 3 to serve as the control communities that will not receive aid from CommunitiWorks. One year after the intervention, CommunitiWorks should re-administer all surveys in Appendices E, F, and J in all the communities 1-5. The organization should administer these surveys again three years after the communities begin receiving funds and five years after they begin receiving funds. The organization, with the help of a third party or

perhaps another Bush School Capstone, should measure findings from these posttests. A simple difference between the outcome parameters between the treatment and control communes will give the causal impact of the treatment. The baseline study that we conducted has revealed that financial barriers to health, education availability, and income are some important outcomes that CW's need to focus on when measuring results from the posttest. We also recommend that CW use the revised surveys in their future evaluations.

Alternatively, CommunitiWorks could also conduct a simple pre-post study as we understand that a structured randomized study mentioned above may not practically serve CommunitiWorks as it pursues its vision of "positive and permanent social and economic transformation" (CommunitiWorks 2012). As a result, it would suffice for CommunitiWorks to conduct posttest surveys one, three, and five years after initial intervention in all five communities and determine the difference between year one and the baseline, year three and year one, and year five and year three. Again, we suggest that evaluators use the revised surveys in Appendices E, F and J and measure their findings against our baseline assessment.

## **Concluding Remarks**

These recommendations include specific areas in which CW can take action to improve current or future aspects of the program model. CW can regularly evaluate and consider program structure in order to sustain and expand impacts over time. While we recognize action on each recommendation is immediately possible, it is important that CW keep such considerations in mind as they implement program efforts on the ground.

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# Appendix A

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## Glossary

### Community Number

Community 1	Akphiwat Mean Chey
Community 2	KK1
Community 3	KK2
Community 4	Krang Angkrong Pei
Community 5	Phum Boun

CW                      CommunitiWorks

CVCD                  Cambodian Volunteers for Community Development

P score                      Probability of obtaining a test statistic indicating that the observed result would be highly unlikely under the null hypothesis

T-test (t score)              T-test is a commonly used way to assess the differences in mean between two groups of data. T score is the result of a t-test which is used to determine if two sets of data are significantly different from each other. The t-test, however, applies only to a sample with normal distribution.

Normal Distribution              Normal distribution is a form of probability distribution, in which the probability is centered and symmetrically distributed around the mean.

Shapiro-Wilks' W Test              Shapiro-Wilks' W Test is a type of normality test. The test is used to see whether the distribution of the data is normal before the t-test is conducted.

Kruskal-Wallis test              Kruskal-Wallis test is a nonparametric method to identify the difference in means of data which is not normally distributed.

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# Appendix B

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## Tables and Figures

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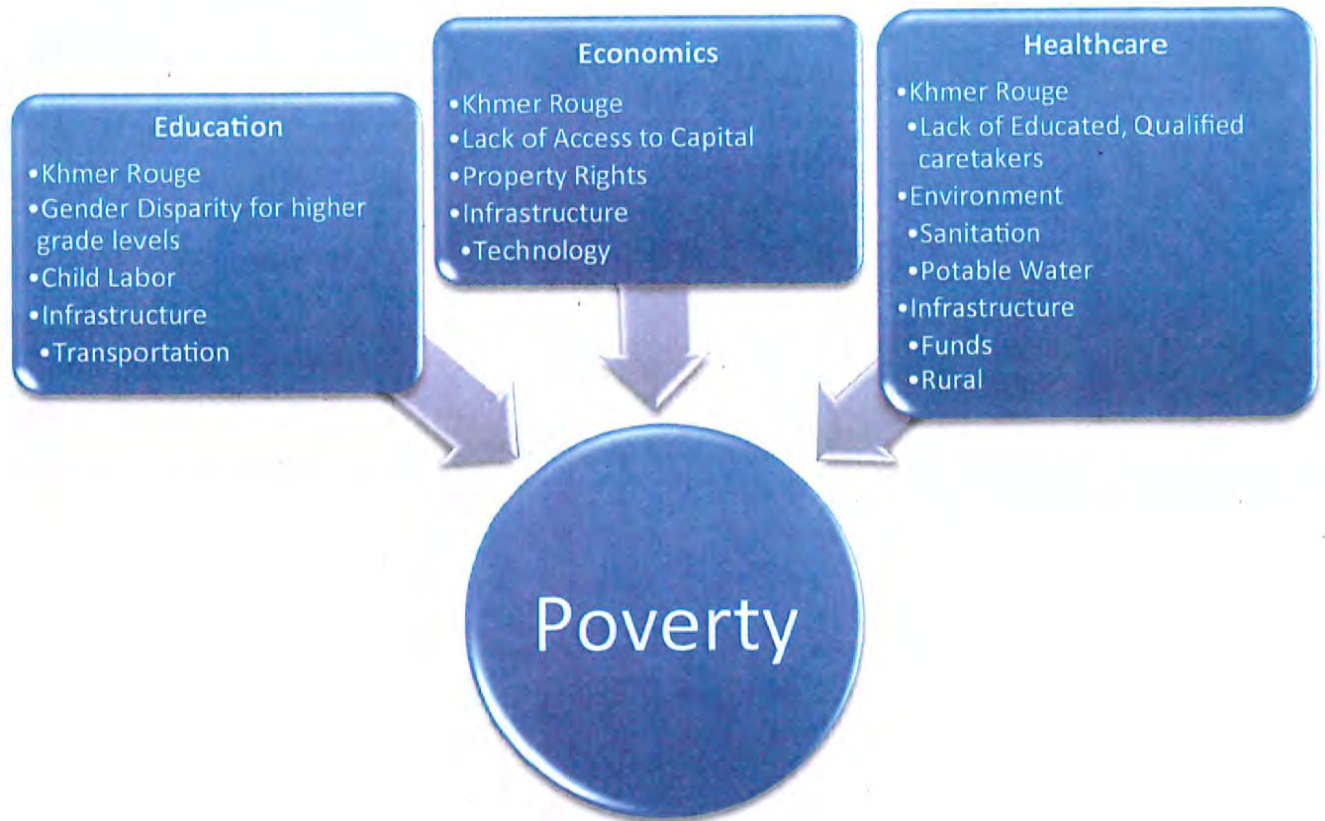
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# Appendix C

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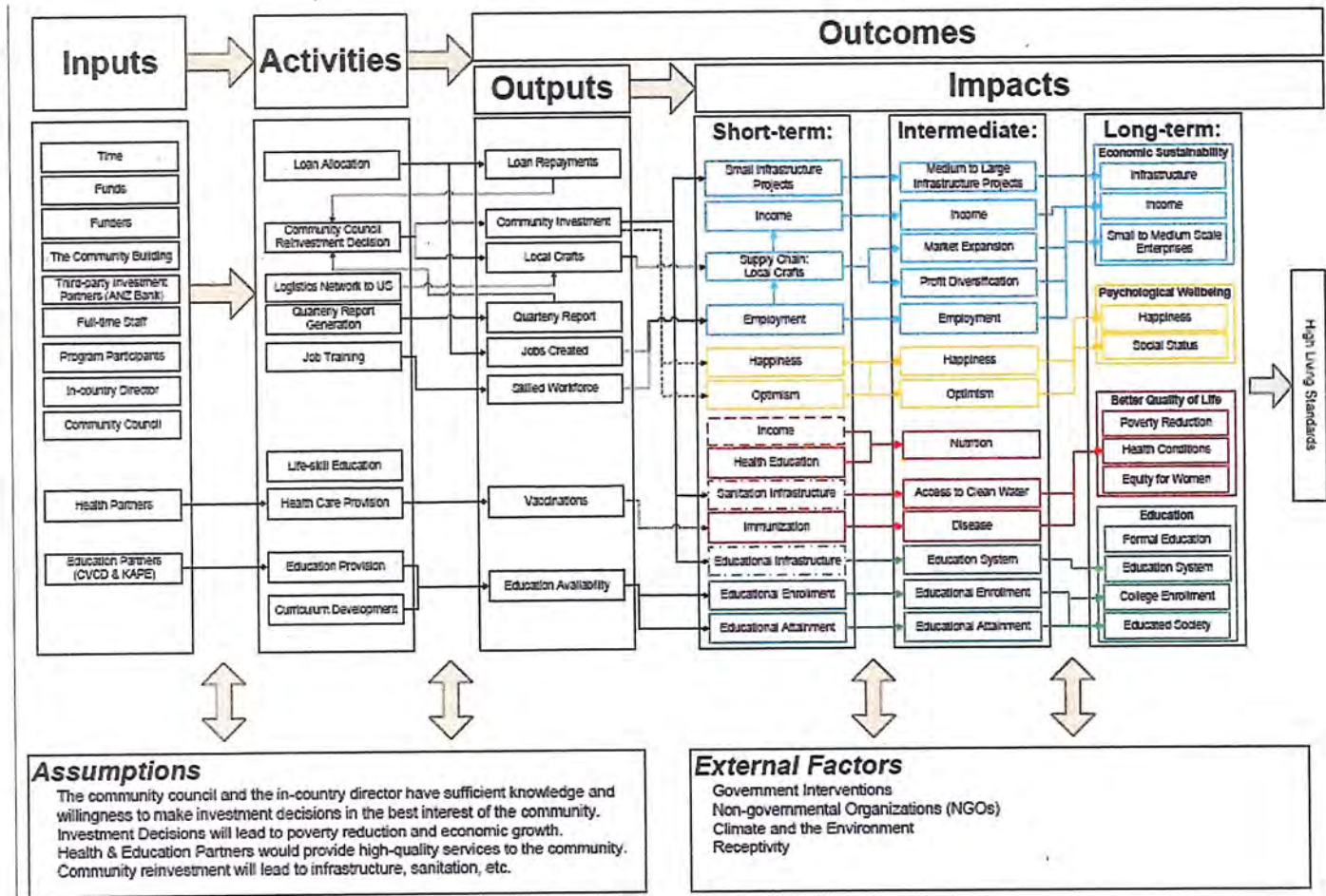
## *Problem Structuring Model*



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# Appendix D

## Program Logic Model





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# Appendix E

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## *Community Level Survey*

**Interviewer:** Introduce the survey to the respondent. Say: "Hello. My name is \_\_\_\_\_ and I am a student at Texas A&M University in the United States of America. We are conducting a survey to get a general understanding of the state of Cambodian society as it is now, and then how CommunitiWorks will affect that. The information we collect will be used for the improvement of CommunitiWorks program. You have been identified as a community leader who may have answers to the following community level questions. We would very much appreciate your participation. The survey usually takes about minutes. Your participation is voluntary and you may end the survey at any time or decide not to answer a particular question. All of your answers will be kept confidential (Refer them to information sheet for all details). Are you willing to participate in the survey and are you over the age of 18?" After he/she agrees, proceed with the dialogue below.

**Interviewer:** Say: "To insure that we properly document your answers, we would like to record this interview using an audio recorder. Will you allow us to audio record this interview?"

**Interviewer:** Say: "Before we begin the survey, do you have any questions for us about what we're doing?" If there are any questions the interviewer should answer them to the best of their ability. After all questions are answered proceed with the dialogue below.

**Interviewer:** Say: "I would like to ask you some questions about general education in the community. If you do not have information for a particular question please just tell us that you are unable to answer that question at the current time."

## Education

2. How many elementary schools are in the community?
3. How many secondary schools are in the community?
4. How many tertiary (high) schools are in the community?
5. What is the teacher to student ratio per school?
6. What is the enrollment of each elementary school in the community?
  - a. Female enrollment?
  - b. Male enrollment?
7. What is the enrollment of each secondary school in the community?
  - a. Female enrollment?
  - b. Male enrollment?
8. What is the enrollment of each tertiary school in the community?
  - a. Female enrollment?
  - b. Male enrollment?
9. What is the retention of each elementary school in the community?
  - a. Female retention?
  - b. Male retention?
10. What is the retention of each secondary school in the community?
  - a. Female retention?
  - b. Male retention?
11. What is the retention of each tertiary school in the community?
  - a. Female retention?
  - b. Male retention?
12. What percent of teachers in each elementary school in the community have been trained professionally?
  - a. Female teachers?
  - b. Male teachers?
13. What percent of teachers in each secondary school in the community have been trained professionally?
  - a. Female teachers?
  - b. Male teachers?
14. What percent of teachers in each tertiary school in the community have been trained professionally?

- a. Female teachers?
  - b. Male teachers?
15. What percentage of community resources is spent per elementary school student annually?
  16. What percentage of community resources is spent per secondary school student annually?
  17. What percentage of community resources is spent per tertiary school student annually?
  18. What is the literacy rate in the community for females 18 and under?
  19. What is the literacy rate in the community for females over 18?
  20. What is the literacy rate in the community for males 18 and under?
  21. What is the literacy rate in the community for males over 18?
  22. How many children (aged 6-18) are working and studying simultaneously?
    - a. How many of these are males?
    - b. How many of these are females?
  23. How many children (aged 6-18) only work and do not participate in any form of education?
    - a. Females?
    - b. Males?
  24. How frequently is curriculum revised?
    - a. How many curriculum topics pertain strictly to women's issues?
  25. What is the average number of years of schooling community members receive/have received?
  26. What is the condition of the school facilities?
  27. How many bathrooms are in the schools?
    - a. For females?
    - b. For males?

**Interviewer:** Say: "I would now like to ask you some questions about general economy of the community. Again, if you do not have information for a particular question please just tell us that you are unable to answer that question at the current time."

1. What is the total amount of money invested into the community through CommunitiWorks' micro loan program?
2. How many community members living on less than one dollar a day?
3. What is the unemployment rate for the community?

4. What is the number of exports for the community?
5. What is the number of businesses in the community (by sector and size)?
6. How many jobs have been created because of CommunitiWorks' micro loan program?

**Interviewer:** Say: "I would now like to ask you some questions about the general health of the community. Again, if you do not have information for a particular question please just tell us that you are unable to answer that question at the current time."

### **Psychological and Health**

1. What is the number of community health workers (per 1000 people)?
2. What is the health expenditure for the community (total % of GDP)?
3. How many hospital beds are in the community (per 1000 people)?
4. How many physicians are in the community (per 1000 people)?
5. What is the life expectancy at birth for this community?
6. What is the infant mortality rate for this community?
7. What is the prevalence of undernourishment in the community (% of population)?
8. How many children are living with HIV in the community?
9. How many incidence of tuberculosis have been reported in the community (per 100,000 people)?
10. What is the smoking prevalence in the community (% of adults)?
11. What is the suicide rate in the community?
12. What is the rate of prescribed anti-depressants in the community?
13. What is the prevalence of substance abuse in the community (% of population)?

**Interviewer:** This is the end of the interview. Please remember to thank the respondent for his/her time in helping you answer these questions.

# Appendix F

## Observation Survey

Observer: _____	<b>Observation Survey</b>
Location: Residential - Education - Public	Date: _____
<i>For Education Facilities Only:</i>	
1. What is the general condition of school facilities? _____ _____	
2. How many bathrooms are in the schools? For males? For females? _____	
3. Do schools have electricity? Plumbing? YES/NO      YES/NO	
4. How crowded are classrooms? _____	
5. How clean is building in general? _____	
<i>For Residential and General Use:</i>	
6. What is the primary construction material of the roof of the housing/dwelling unit occupied by your household? _____	
7. Wall/floor materials? _____	
8. Toilet facilities in home? YES/NO Specify: _____	
9. Water source? Electricity source? _____	
10. Trash in residential streets? Specify: _____	
11. Describe health appearance of children (malnourished, overweight)? _____ _____	
12. Cleanliness of children (clothed, bathed, wearing shoes)? _____ _____	
13. Prevalence of smoking? Day drinking? _____	
14. Material of roads (dirt, paved, stone)? Quality/size of roads (crowded, even, planned)? _____	
15. Overall attitude of people (friendly, angry, cordial?) _____	

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# Appendix G

## Household Survey

Survey Number \_\_\_\_\_

### Client Assessment Survey - Cambodia

Interviewer: Fill out the information below before the survey begins. Do not ask the respondent for this information.

Date of Interview:  (dd-mm-yyyy)  
 Time of Interview:   
 Interviewer (code):   
 Branch (code):   
 Urban or Rural:  Urban=0; Rural=1  
 Cambodian:  No=0; Yes=1  
 18 or older:  No=0; Yes=1

Quality Control Checks	
Field Supervisor	
Date	Initials
Data Processor	
Date	Initials

Interviewer: Introduce the survey to the respondent. Say: "Hello. My name is \_\_\_\_\_ and I am a student at Texas A&M University in the United States of America. We are conducting a survey to get a general understanding of the state of Cambodian society as it is now, and then how CommunityWorks will affect that. The information we collect will be used for the improvement of CommunityWorks program. You have been randomly selected for this survey and we would very much appreciate your participation. The survey usually takes about 30 minutes. Your participation is voluntary and you may end the survey at any time or decide not to answer a particular question. All of your answers will be kept confidential (Refer them to information sheet for all details). Are you willing to participate in the survey?" After he/she agrees, proceed with the dialogue below.

Interviewer: Say: "To insure that we properly document your answers, we would like to record this interview using an audio recorder. Will you allow us to audio record this interview?"

Yes or No

Interviewer: "Before we begin the survey, do you have any questions for us about what we're doing?" If there are any questions the interviewer should answer them to the best of their ability. After all questions are answered proceed with the dialogue below.

Interviewer: "I would like to ask you some questions about the people in your household. Let me tell you a little bit about what we mean by 'household.' For our purposes today, members of a household are those that live together and eat from the 'same pot.' Each person contributes to and benefits from the household. It should include anyone who has lived in your house for 6 of the last 12 months, but it does not include anyone who lives here but eats separately. Do you have any questions about that?" Answer any questions the respondent has before proceeding.

- How many individuals are living in the household?  number
- What is the sex of the head of household?  number
- What is the age of the head of household?  number
- What is the occupation of the head of household?
- What is the average monthly income for the head of household?  number
- What is the average monthly family income?  number
- On average how much does your household spend on food in one month?  number

Interviewer: Say: "Now, I would like to ask you some questions about your housing conditions. By housing I mean all the rooms and all the separate buildings in which you and your household members live."

Interviewer: For questions with multiple choice answers, do not read the answers. Ask respondent the question and match the answer to the option most similar on the survey. If respondent's answer is unclear, probe until you find an adequate answer.

- Is this dwelling owned by a member of your household?  number  
 Yes .....1  
 No .....2
- Do you rent this dwelling for goods, services or cash?  number  
 Yes .....1  
 No .....2
- If Answer to 9 is No Skip to 11. How much do you pay in cash to rent this dwelling?  number
- What is your household's main source of lighting?  
 Publicly-provided electricity .....1      Kerosene lamp .....4  
 Privately-generated electricity/Generator .....2      None .....5  
 Battery .....3      Other .....6



Survey Number \_\_\_\_\_

12. Did your household boil or otherwise treat its drinking water last month?
- Yes, always .....1  
Sometimes .....2  
No, never .....3

13. What is your household's source of drinking water last month?
- Piped in dwelling/tubed-piped well.....1  
Protected dug well .....2  
River/pond/stream .....3  
Other.....4
- Other Description:

14. What type of fuel does your household mainly use for cooking?
- |                                |  |
|--------------------------------|--|
| Firewood .....1                | Publicly-provided electricity .....6   |
| Charcoal .....2                | Gas and electricity .....7             |
| Firewood and charcoal .....3   | Privately-generated electricity .....8 |
| Liquefied petroleum gas .....4 | None/don't cook .....9                 |
| Kerosene .....5                | Other .....10                          |

*Interviewer: Please make sure that the setting of the interview ensures confidentiality before beginning this section. Say: "I know that the following questions may be sensitive. I assure you that the answers will not be shared with anyone else."*

15. How many times in the past 7 days did your household consume fish/fish paste, squid, shrimp and prawns, etc. at home?   
number
16. How many times in the past 7 days did your household eat other meat, such as beef, pork, chicken, duck etc., at home?   
number
17. How many televisions does your household own?   
number
18. How many video tape players or video tape recorders does your household own?   
number
19. How many motorcycles does your household currently own?   
number
20. How many suitcases does your household own?   
number
21. How many dining sets does your household own? By dining set, I mean a dining table with chairs.   
number
22. How many wardrobes or cabinets does your household own?   
number

*Interviewer: Say: "I would now like to ask you questions concerning education. Again, I assure you that the answers will not be shared with anyone else."*

23. How many individuals in your household can read a simple message in any language?   
number
24. How do you and your children get to school?
- Walk.....1  
Bicycle .....2  
Use public transportation .....3  
Use personal or family vehicle.....4
25. How long does it take you or your children to get to school (one-way)?   
number
26. How much do you (household) spend on other educational expenses per child annually?   
number

*Interviewer: Please make sure that the setting of the interview ensures confidentiality before beginning this section. Say: "I would now like to ask you questions concerning your happiness. I know that the following questions may be sensitive. I assure you that the answers will not be shared with anyone else."*

27. In general, how would you rate your happiness?
- Very not happy.....1  
 Not happy.....2  
 Undecided.....3  
 Happy.....4  
 Very Happy.....5
28. Some people are generally very happy. They enjoy life regardless of what is going on, getting the most out of everything. To what extent does this characterization describe you?
- Strongly Disagree.....1  
 Disagree.....2  
 Undecided.....3  
 Agree.....4  
 Strongly Agree.....5
29. Some people are generally not very happy. Although they are not depressed, they never seem as happy as they might be. To what extent does this characterization describe you?
- Strongly Disagree.....1  
 Disagree.....2  
 Undecided.....3  
 Agree.....4  
 Strongly Agree.....5
30. I have confidence in my opinions, even if they are contrary to the general consensus. To what extent does this characterization describe you?
- Strongly Disagree.....1  
 Disagree.....2  
 Undecided.....3  
 Agree.....4  
 Strongly Agree.....5
31. I like most aspects of my personality. To what extent does this characterization describe you?
- Strongly Disagree.....1  
 Disagree.....2  
 Undecided.....3  
 Agree.....4  
 Strongly Agree.....5
32. Some people wander aimlessly through life, but I am not one of them. To what extent does this characterization describe you?
- Strongly Disagree.....1  
 Disagree.....2  
 Undecided.....3  
 Agree.....4  
 Strongly Agree.....5
33. Will life for your children be better than it has been for you?
- Strongly Disagree.....1  
 Disagree.....2  
 Undecided.....3  
 Agree.....4  
 Strongly Agree.....5
34. "The lot of the average man is getting worse." To what extent do you agree or disagree with this statement?
- Strongly Disagree.....1  
 Disagree.....2  
 Undecided.....3  
 Agree.....4  
 Strongly Agree.....5

Survey Number \_\_\_\_\_

35. Do you feel that you have control over your own destiny?

- Strongly Disagree.....1
- Disagree.....2
- Undecided.....3
- Agree.....4
- Strongly Agree.....5

36. Thinking of the way your family lives, would you say your family is better off today in terms of money than a year ago, about the same, or worse off than a year ago?

- Better off today than a year ago.....1
- About the same.....2
- Worse off than a year ago.....3
- Undecided.....4

*Interviewer: Please make sure that the setting of the interview ensures confidentiality before beginning this section. Say: "I would now like to ask you questions concerning your health. I know that the following questions may be sensitive. I assure you that the answers will not be shared with anyone else."*

37. How would you rate your overall physical health?

- Very Poor.....1
- Poor.....2
- Fair.....3
- Good.....4
- Excellent.....5

38. Have you experienced difficulty obtaining any type of health care, delayed obtaining care, or did not receive health care they thought they needed?

- Strongly Disagree.....1
- Disagree.....2
- Undecided.....3
- Agree.....4
- Strongly Agree.....5

39. Did you not receive a doctor's care or a prescription medication because the family needed money to buy food, clothing, or pay for housing (referred to as "financial barriers")?

- Strongly Disagree.....1
- Disagree.....2
- Undecided.....3
- Agree.....4
- Strongly Agree.....5

40. Did you not receive a doctor's care or a prescription medication because of geographic barriers (travel time to receive healthcare)?

- Strongly Disagree.....1
- Disagree.....2
- Undecided.....3
- Agree.....4
- Strongly Agree.....5

*Interviewer: Look over the survey to see if you have missed any questions. If you have, please ask those questions of the respondent. If not, it is the end of the interview. Remember to thank the respondent for his/her time in helping you answer these questions!*

# Appendix H

## Sample Characteristics

Variable Name	Observations	Sample Mean	Sample Median	S.D.	C.I. @ 95%	Shapiro-Wilk Stats (P value)
Household Size	42	5.76	5.50	2.46	(5.00, 6.53)	3.488 (0.0002)
Household Head Age	42	45.14	45.5	11.67	(41.51,48.80)	0.392 (0.3476)
Household Head Income	20	6.40	5.00	5.11	(4.00,8.79)	2.157 (0.0155)
Household Income	33	8.64	7.50	8.68	(5.56,11.71)	5.140 (0.0000)
Food Expenditure	42	4.77	5.00	3.34	(3.73,5.81)	4.203 (0.0000)
Monthly Rental	10	32.00	30.00	12.52	(23.05,40.95)	0.325 (0.3724)
Meals with Seafood per Week	41	4.10	4.00	1.84	(3.52,4.68)	0.358 (0.3601)
Meals with Meat per Week	37	3.49	4.00	1.69	(2.92,4.05)	-1.809 (0.9648)
# of TV	42	1.12	1.00	0.58	(0.99,1.35)	1.098 (0.1360)
# of VCR	42	0.60	1.00	0.54	(0.43, 0.76)	2.937 (0.0017)
# of Motorcycle	42	1.26	1.00	0.73	(1.03, 1.49)	-0.362 (0.6414)
# of Suitcase	21	0.29	0.00	0.56	(0.03, 0.54)	4.555 (0.0000)
# of Dining Set	42	0.52	0.00	0.63	(0.33,0.72)	3.489 (0.0002)
# of Cabinet	42	0.83	1.00	0.88	(0.56,1.11)	3.409 (0.0003)
# w/ Reading Ability	40	3.675	4.00	0.63	(3.05,4.29)	-1.791 (0.9633)
School Transportation Time (USD)	29	16.21	10.00	12.79	(11.34,21.07)	3.422 (0.0003)
Education Expenditure per Child	29	0.80	0.50	0.79	(0.50,1.10)	4.049 (0.0000)

Variable Name	Observations	Sample Mean	Sample Median	S.D.	C.I. @ 95%	Shapiro-Wilk Stats (P value)
Happiness	42	3.31	4.00	1.05	(2.98, 3.64)	1.497 (0.0674)
Self-Confidence	18	2.94	3.00	1.05	(2.15, 3.73)	-1.441 (0.9252)
Belief of Better Future for Their Children	38	4.39	5.00	0.82	(4.12, 4.67)	3.698 (0.0001)
Average Man Gets Worse Off. Control Own Destiny.	23	3.83	4.00	1.23	(3.29, 4.36)	1.586 (0.0564)
Financial Position Compared with Previous Year	42	1.61	1.00	0.95	(1.32, 1.89)	3.760 (0.0001)
Overall Health Status	42	2.95	3.00	1.29	(2.55, 3.35)	0.599 (0.2744)
Access to Healthcare is limited.	41	3.44	4.00	1.52	(2.96, 3.92)	1.278 (0.1007)
Financial Barriers to Healthcare	41	3.90	4.00	1.16	(3.54, 4.27)	3.736 (0.0001)
Geographic Barriers to Healthcare	40	3.00	3.50	1.64	(2.47, 3.52)	0.442 (0.3292)

# Appendix I

## Correlation Table

Community	Head of Household Income	Occupation	English Coefficient	Average Literacy Items	Gender Bias	Math Bias	Mean Bias	Linear Access	Financial Barrier	Geographic Barrier	Hospitality	Literacy Rate	Transportation Type	Transportation Time
Community	FR, 1812.40 p0.195	FR, 1812.40 p0.195												
Head of Household Income	FR, 1812.40 p0.195	FR, 1812.40 p0.195												
Occupation	FR, 1812.40 p0.195	FR, 1812.40 p0.195												
English Coefficient	FR, 1812.40 p0.195	FR, 1812.40 p0.195												
Average Literacy Items	FR, 1812.40 p0.195	FR, 1812.40 p0.195												
Gender Bias	FR, 1812.40 p0.195	FR, 1812.40 p0.195												
Math Bias	FR, 1812.40 p0.195	FR, 1812.40 p0.195												
Mean Bias	FR, 1812.40 p0.195	FR, 1812.40 p0.195												
Linear Access	FR, 1812.40 p0.195	FR, 1812.40 p0.195												
Financial Barrier	FR, 1812.40 p0.195	FR, 1812.40 p0.195												
Geographic Barrier	FR, 1812.40 p0.195	FR, 1812.40 p0.195												
Hospitality	FR, 1812.40 p0.195	FR, 1812.40 p0.195												
Literacy Rate	FR, 1812.40 p0.195	FR, 1812.40 p0.195												
Transportation Type	FR, 1812.40 p0.195	FR, 1812.40 p0.195												
Transportation Time	FR, 1812.40 p0.195	FR, 1812.40 p0.195												

Note: Correlation level = 0.10%, \*\* 0.05%, \*\*\* 0.01%

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# Appendix J

## Revised Household Survey

### Client Assessment Survey - Cambodia

Interviewer: Fill out the information below before the survey begins. Do not ask the respondent for this information.

Date of Interview :  (dd-mm-yyyy)

Time of Interview :

Interviewer (code) :

Community (code) :

Urban or Rural :  Urban=0; Rural=1

Cambodian :  No=0; Yes=1

Age of Interviewee:

Gender of Interviewee:  Male=0; Gender=1

Quality Control Checks	
Field Supervisor	
Date _____	Initials _____
Data Processor	
Date _____	Initials _____

Interviewer: Introduce the survey to the respondent. Say: "Hello. My name is \_\_\_\_\_ and I am with \_\_\_\_\_. We are conducting a survey to get a general understanding of the state of Cambodian society as it is now and how CommunitiWorks has affected local communities. The information we collect will be used for the improvement of CommunitiWorks program. You have been randomly selected for this survey and we would very much appreciate your participation. The survey usually takes about 30 minutes. Your participation is voluntary and you may end the survey at any time or decide not to answer a particular question. All of your answers will be kept confidential (Refer them to information sheet for all details). Are you willing to participate in the survey?" After he/she agrees, proceed with the dialogue below.

Interviewer: Say: "To insure that we properly document your answers, we would like to record this interview using an audio recorder. Will you allow us to audio record this interview?"

  
 Yes or No

Interviewer: "Before we begin the survey, do you have any questions for us about what we're doing?" If there are any questions the interviewer should answer them to the best of their ability. After all questions are answered proceed with the dialogue below.

Interviewer: "I would like to ask you some questions about the people in your household. Let me tell you a little bit about what we mean by 'household.' For our purposes today, members of a household are those that live together and eat from the "same pot." Each person contributes to and benefits from the household. It should include anyone who has lived in your house for 6 of the last 12 months, but it does not include anyone who lives here but eats separately. Do you have any questions about that?" Answer any questions the respondent has before proceeding.

A. Household Member	B. Sex	C. What is [NAME]'s relationship to the household head?	D. How old is [NAME]?	E. For persons 5 years of age and older only Can [NAME] read a simple message in any language?	F. What is the Occupation of [NAME]?
	Female ... 0 Male ..... 1	Head.....1 Spouse.....2 Child.....3 Parent.....4 Grandchild.....5 Grandparent.....6 Other.....7	(complete years)	No.....0 Yes.....1	
1) Respondent					
2)					
3)					
4)					
5)					
6)					
7)					
8)					
9)					
10)					
11)					
12)					
13)					
14)					
15)					



*Interviewer: Skip this section and return to fill in the answers after the interview. Do not ask the respondent these questions; fill in the answers from the information in the preceding table.*

- 1. Number of individuals living in the household (Record from Column A above):  number
- 2. Sex of household head (record sex from Column B for person who is identified as household head in Column C):  number
- 3. Age of household head (record age from Column D for person who is identified as household head in Column C):
- 4. Number of people age 18 and older (excluding head) who can read (record total number who answer 1 in Column E, excluding household head, who are identified as 18 years or older in Column D)  number
- 5. What is the occupation of the head of household?

- 6. What is the average monthly income for the head of household?  number
- 7. What is the average monthly family income?  number
- 8. On average how much does your household spend on food in one month?  number

*Interviewer: Say: "Now, I would like to ask you some questions about your housing conditions. By housing I mean all the rooms and all the separate buildings in which you and your household members live."*

*Interviewer: For questions with multiple choice answers, do not read the answers. Ask respondent the question and match the answer to the option most similar on the survey. If respondent's answer is unclear, probe until you find an adequate answer.*

- 8. Is this dwelling owned by a member of your household?  number
  - Yes .....1
  - No.....2
- 9. Do you rent this dwelling for goods, services or cash?  number
  - Yes .....1
  - No.....2
- 10. *If Answer to 9 is No Skip to 11.* How much do you pay in cash to rent this dwelling?  number
- 11. What is your household's main source of lighting? 

Publicly-provided electricity .....1	Kerosene lamp .....4
Privately-generated electricity/Generator ..2	None .....5
Battery .....3	Other .....6

- 12. Did your household boil or otherwise treat its drinking water last month? 
  - Yes, always .....1
  - Sometimes .....2
  - No, never .....3

- 13. What is your household's source of drinking water last month? 

Piped in dwelling/tubed-piped well.....1	Other Description: <input style="width: 200px;" type="text"/>
Protected dug well .....2	
River/pond/stream .....3	
Other.....4	

- 14. What type of fuel does your household mainly use for cooking? 

Firewood .....1	Publicly-provided electricity .....6
Charcoal .....2	Gas and electricity .....7
Firewood and charcoal .....3	Privately-generated electricity .....8
Liquefied petroleum gas .....4	None/don't cook .....9
Kerosene .....5	Other .....10

*Interviewer: Please make sure that the setting of the interview ensures confidentiality before beginning this section. Say: "I know that the following questions may be sensitive. I assure you that the answers will not be shared with anyone else."*

- 15. How many times in the past 7 days did your household eat other meat, such as beef, pork, chicken, duck, etc. at home?  number



32. "The lot of the average person is getting worse." To what extent do you agree or disagree with this statement?

Strongly Disagree.....1  
 Disagree.....2  
 Undecided.....3  
 Agree.....4  
 Strongly Agree.....5

33. Do you feel that you have control over your own destiny?

Strongly Disagree.....1  
 Disagree.....2  
 Undecided.....3  
 Agree.....4  
 Strongly Agree.....5

34. Thinking of the way your family lives, would you say your family is better off today in terms of money than a year ago, about the same, or worse off than a year ago?

Worse off than a year ago.....1  
 About the same.....2  
 Better off today than a year ago.....3  
 Undecided.....4

*Interviewer: Please make sure that the setting of the interview ensures confidentiality before beginning this section. Say: "I would now like to ask you questions concerning your health. I know that the following questions may be sensitive. I assure you that the answers will not be shared with anyone else."*

35. How would you rate your overall physical health?

Very Poor.....1  
 Poor.....2  
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 Good.....4  
 Excellent.....5

36. Have you experienced difficulty obtaining any type of health care, delayed obtaining care, or did not receive health care they thought they needed?

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37. Did you not receive a doctor's care or a prescription medication because the family needed money to buy food, clothing, or pay for housing (referred to as "financial barriers")?

Strongly Disagree.....1  
 Disagree.....2  
 Undecided.....3  
 Agree.....4  
 Strongly Agree.....5

38. Did you not receive a doctor's care or a prescription medication because of geographic barriers (travel time to receive healthcare)?

Strongly Disagree.....1  
 Disagree.....2  
 Undecided.....3  
 Agree.....4  
 Strongly Agree.....5

*Interviewer: Look over the survey to see if you have missed any questions. If you have, please ask those questions of the respondent. If not, it is the end of the interview. Remember to thank the respondent for his/her time in helping you answer these questions!*

# Capstone Team Biographies

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**Kyle J. Boes** is a second-year Master of Public Service and Administration Candidate (MPSA) at the Bush School of Government and Public Service with an emphasis in Public Management and Security Policy. Kyle is also an Iraq War veteran, graduated magna cum laude from Utah State University in 2010 with a Bachelor of Science in Political Science and was inducted into the Pi Sigma Alpha honor society. He also holds two associates' degrees from the Community College of the Air Force. Kyle prides himself in giving back to the community and was awarded the Presidential Volunteer Service Award in 2007 after serving as a mentor to elementary students, volunteering with habitat for humanity, and volunteering with the Boy Scouts of America. He has participated and served as a leader in many organizations, including Student Veterans of America, USU Government Relations Council, the Veterans of Foreign Wars, the Air Force Sergeants Association and his local church. Kyle has experience in both the private sector in agriculture and the automotive industry and in the public sector in the US Military, the US Senate, and at USCIS. Upon graduation in May of 2013, Kyle hopes to find a job in the homeland security or emergency management community in the public or nonprofit sector.



**Clark Caperton** is a second-year Master of Public Service and Administration Candidate (MPSA) at the Bush School of Government and Public Service. His concentration is Organizational Strategy and Execution, focusing ongoing performance measurement and

management, as well as program evaluation for public sector and non-profit organizations. Clark received a Bachelor of Arts degree in Political Science from Texas A&M University. Clark served as chief of staff in the Bush School Student Government Association and participates regularly in volunteer events at Texas A&M University and in his hometown of Rowlett, Texas. Upon graduation in May of 2013, Clark will join Alvarez & Marsal Business Consulting, LLC in Houston, Texas as a Consulting Analyst. In this role he will serve a range of organizations, including local government and nonprofit clients.



**Calen Caple** is a second-year Master of Public Service and Administration (MPSA) candidate at the Bush School of Government and Public Service, with a concentration in Innovation & Entrepreneurship in the Public Sector. She graduated from the University of Missouri with a Bachelor's in Political Science and a minor in Multicultural Studies, and spent a year of her undergraduate studies at the American University in Cairo, Egypt. Calen led the student campaign to raise the funds for a Habitat for Humanity home in honor of President and Mrs. Bush Sr., and is employed as a Volunteer Coordinator at the Bryan/College Station Habitat. Upon graduation in May of 2013, Calen hopes to lead her own start-up social enterprise focusing on at-risk youth development.



**Qian "Eric" Luo** is a second-year Master of Public Service and Administration (MPSA) candidate at the Bush School of Government and Public Service. Eric pursues the public policy track and concentrates on nonprofit management. He received a bachelor of engineering in mechanical design, manufacture, and automation and a bachelor of economics in economics from Southwest Jiaotong University, Chengdu,

Sichuan, China. He interned at B/CS Habitat for Humanity during the summer of 2012. Upon graduation in May of 2013, Eric will continue education in the field of public policy analysis.



**Grace Norman** is a second-year Master of Public Service and Administration Candidate (MPSA) at the Bush School of Government and Public Service. Her studies focus upon Public Management in the Nonprofit and State & Local Government fields. She earned a Bachelor of Science in Agricultural Leadership and Development from Texas A&M University in 2011. While at the Bush School, she has served as Public Service Organization Second Vice Chair and Executive Chair. During the summer of 2012, she interned with Points of Light in their Government Affairs office where she researched federal funding for the organization's 200+ affiliates. Upon graduation in May of 2013, Grace hopes to pursue a career in community engagement in either a nonprofit or city government.



**Elizabeth Sandefur** is a second-year Master of Public Service and Administration (MPSA) candidate at the Bush School of Government and Public Service. Elizabeth graduated from the University of Houston with a Bachelors of Science in Psychology with a minor in Political Science. Elizabeth currently works for the Texas A&M Transportation Institute as a graduate student researcher in the funding and finance division. Prior to enrolling at the Bush School, Elizabeth worked in the property tax industry for five years in both Houston and Atlanta.



**Esha Singh** is a second year Master of Public Service and Administration (MPSA) student at the Bush School of Government and Public Service with specialization in Development and Energy. Originally from Chandigarh, India, Esha has an undergraduate degree in Computer Science Engineering and more than two years of work experience with TATA Consultancy Services, India as a Software Engineer. During summer, 2012 Esha interned with Texas Transportation Institute (TTI) and assisted on a report to the Government of Abu Dhabi in the field of Transportation safety and continues to work with TTI part time as a research assistant this year. Upon graduation in May of 2013, Esha plans to return to her home country and work in the field of Research, Monitoring and Evaluation with a renowned development agency.



**Taylor G. Smith** is a second-year Master of Public Service and Administration (MPSA) candidate at the Bush School of Government and Public Service. He is on the Public Management track with a concentration in Education Policy. Taylor has a deep interest in education policy and after graduation in May 2013 plans to continue working in this field. During his time at Texas A&M University, Taylor has studied abroad in Qatar, China, and India. In February of 2013, he and a team of three other Bush School students traveled to Cambodia to collect baseline data as part of their Capstone course. Taylor has the honor and privilege of serving as the Graduate Student Council President for the 2012-2013 academic year. Taylor is a native of Midlothian, Texas, and in December 2010 graduated from Texas A&M University with a Bachelor of Science in Industrial and Systems Engineering. He also received an Engineering Project Management certificate and earned minors in Business Administration and Math. Throughout his years at Texas A&M

University, Taylor has held many internships including: Public Policy Intern with the Texas Early Learning Council in Houston, Texas; Commercial Service Intern at the U.S. Department of Commerce in Washington, D.C.; Project Management Intern with Citi Bank in Irving, Texas; and the Director of The Coffee House and College Ministry intern at A&M United Methodist Church in College Station, Texas.



**Ashley Spradlin** is a second-year Master of Public Service and Administration (MPSA) candidate at the Bush School of Government and Public Service seeking concentrations in nonprofit management and state and local government. Ashley received her bachelor's degree in English from Texas A&M University-Texarkana in 2009. During the summer of 2012 she interned with the City of Texarkana, Texas where she worked on a community health grant application for the Center for Disease Control and Prevention. This experience, paired with her courses at the Bush School and work in India and Cambodia, has led her to seek a career in women's health after graduation.



**W. Reid Squires** is a second-year Master of Public Service and Administration (MPSA) candidate at the Bush School of Government and Public Service. He is concentrating in Nonprofit Management and Emergency Management. He received his Bachelor of Arts in Political Science from the University of North Carolina Wilmington. He was an intern for the North Carolina Community Foundation's southeast regional office. Upon graduation in May of 2013, Reid plans to continue to serve the public sector through a career in either the nonprofit or government sectors.



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