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Needs Assessment and Program Plan for Community Childcare in Nairobi's Informal Settlements

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An abstract of
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Abstract

In Nairobi's informal settlements no formal childcare exists for children under the age of three-years, with limited availability for three-to-five year olds. This challenges maternal employment and girls' school enrollment due to their childcare responsibilities. At the same time over 50% of children residing in Nairobi's informal settlements experience stunted development, resulting from disproportionately high malnutrition, low immunization, dangerous environments, and poor stimulation. Therefore a community-based organization (Lea Toto) in the informal settlement of Kawangware, sponsored a child care and health community needs assessment. In hopes of creating a sustainable movement within Kawangware and other informal settlements throughout Nairobi, Lea Toto requested the development of a program plan for childcare services.

The purpose of this special studies project is to assess the need for early childcare services in Nairobi's informal settlements of Nairobi, and identify caregiver and community specific desires regarding child-focused services. Analyzing community needs assessment data from caregiver surveys and community-based focus group discussions elucidates the caregiver and community specific desires. Information garnered from the needs assessment informs a program plan for community-driven childcare. Additionally informing the program structure is an evaluation of similar programs' effectiveness, and national guidelines from Kenya. The analysis of a childcare competitor analysis will provide a framework for the availability and quality of existing child care and health services in the Kawangware community, where the program will pilot.

The goal of the program plan is to build an efficacious community-driven solution to the childcare crisis within Nairobi's informal settlements. The program plan will layout the framework, goals and objectives, activities, timeline, monitoring and evaluation, budgeting, and more. The program is developed under the name of the Kenya Community Childcare Initiative (KCCI). KCCI addresses the lack of childcare services available to women and their families, as well as responds to children's poor health and development in Nairobi's informal settlements. KCCI ensures children's most vulnerable years are healthy via daily care, robust nutrition, medical services and early childhood education. Simultaneously caregivers are empowered to work and sustain their families' livelihoods, while also improving sibling girls' school attendance.

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CHAPTER ONE: INTRODUCTION

1.1 RATIONALE

The World Bank projects that half of Kenya's population will reside in urban areas by 2033, and by 2045 the urban population is expected to quadruple [1]. Nairobi's urbanization is characterized by expensive formal housing sector rent, resulting in over 50% of the population residing in unplanned and under resourced slum settlements [2]. Services are extremely limited within these environments, posing hardships to families [3-6]. The surge in Kenya's population is also defined by a marked increase in female migration [7]. Survey analyses from Nairobi's 2009 Urban Integration Report found that most female migrants come to Nairobi just before parenthood, complicating entry into the labor force. UN Habitat states that women in the Kibera slum bear the brunt of problems associated with slum residency as they are expected to contribute to the economy, while also managing childrearing [8]. Consequently there is an increased need to understand the interplay between maternal employment and childcare within such settings.

Figure 1: Map of Nairobi, Kenya

Children of employed mothers have better health outcomes as more resources are channeled into

food, shelter and education for children. However as women increasingly enter the workforce, issues regarding childcare arise. Previously mothers most often used extended family to provide childcare. Unfortunately informal care is becoming less available as women migrate from rural regions leaving behind extended family, a situation that is exacerbated in urban informal settlements [3]. Kenya's urban migration is a growing issue that brings about new challenges for families throughout Nairobi.

For families with young children, mothers struggle with the challenge of finding employment, obtaining childcare, and sending their children to school [9-16]. A lack of childcare contributes to unemployment and drives women into low-pay and insecure informal sector jobs such as washing clothes or cleaning homes [15-17]. Older siblings within the family also face consequences resulting from a lack of childcare. Numerous research studies throughout the world have reported that the presence of younger siblings (<5 years) has a significant negative effect on older girls' school attendance due to their responsibility for sibling care while mothers work [13, 14, 16]. When no capable individual is available to provide childcare, child neglect is a recurring problem for employed mothers within Nairobi's informal settlements. Therefore limited childcare availability serves as a barrier to improving the livelihoods of families, and affects the health and development of children throughout the informal settlements of Nairobi.

Nairobi's urban informal settlements have extremely limited options for accessible and affordable childcare, with no services for children under the age of three years of age. Existing childcare facilities are crowded and characterized by poor hygiene and sanitation. Nutrition is limited, and individualized care is absent [15, 18-22]. Overall the available care does not meet

the basic needs of attending children. At the same time children in Nairobi's slums are the unhealthiest nationwide, with over ½ suffering from stunted development. This results from disproportionately high malnutrition and infection rates, low immunization, unsafe environments, and inadequate stimulation. The occurrence of these conditions in a child's earliest years of life have lasting negative impacts [23, 24].

Figure 2: Map of Nairobi's informal settlements

The combination of these aspects provides an unhealthy environment for children that impair the social, physical and cognitive development of children [20-22]. A child's most important years for survival, growth and development are from zero to three years when the child's brain is growing rapidly. It is within this time frame that a child is most vulnerable to risks of malnutrition, stress and a lack of nurturing and stimulation [21]. UNICEF reports that children are developing slower due to poverty, under nutrition, unhealthy and dangerous surroundings, as well as poor learning environments, which lack adequate stimulation. When investments are not made in these essential years, a tragic loss of human potential is occurring as cost-effective interventions can be implemented [21, 22, 25]. Therefore in order to increase the odds of success for children, particularly those within poverty, there is a need to invest in children's earliest years of life. The slums of Nairobi are facing a childcare, health, and development crisis, yet simple cost-effective sustainable solutions can be implemented to solve this emergency.

1.2 PROBLEM STATEMENT

Lea Toto, Swahili for 'to raise a child,' is a community-based care program located in Nairobi, Kenya. Lea Toto provides services to HIV positive children and their families in eight informal settlements of Nairobi. The program was initiated in response to rising numbers of HIV positive orphans throughout Nairobi. Nyumbani, the parent organization to Lea Toto, began in 1992 as an orphanage for HIV positive children. In 1998 Nyumbani expanded through developing the Lea Toto program, enabling HIV+ children to remain with their caregivers in their communities [26]. The focus of the program is to provide services and support to families of children infected with HIV, in order to prevent further orphaning of children. Lea Toto initially aimed to support HIV positive children only, but realized they were leaving out an immense cohort of vulnerable children within their communities. As such Lea Toto began investigating ways in which it could expand its reach to support more children.

In the summer of 2012 Lea Toto hosted a Masters student from Emory University's Rollins School of Public Health. Lea Toto sponsored a childcare evaluation in three of their program regions: Kawangware, Kibera and Kariobangi. Perceived need identified by the childcare assessment and tragic infant deaths due to poor care and neglect, elucidated the need to improve access to childcare services. In result the student and Lea Toto recruited community health workers (CHWs) to discuss solutions to this crisis. Immediately the CHWs became dedicated advocates for the provision of community-driven childcare services.

In August 2012 the community health workers from Kawangware joined social service experts from Lea Toto to initiate community childcare services plan. In hopes of creating a sustainable

movement within Kawangware and other informal settlements throughout Nairobi, these partners requested the development of a program plan for childcare services. The goal of the program plan is to build an efficacious community-based solution to the childcare crisis within Nairobi's informal settlements. The program plan will layout the framework, model, and logistics of a childcare facility intervention. This includes the development of goals and objectives, activities, a timeline, rules and regulations, risk management, monitoring and evaluation, and budgeting.

1.3 PURPOSE STATEMENT

The purpose of this special studies project is to assess the need for early childcare services (children aged 0 to 5 years) in the informal settlements of Nairobi, and identify caregiver and community specific desires regarding such facilities. Analyzing community needs assessment data from caregiver surveys and community-based focus group discussions will elucidate the caregiver and community specific desires. Information garnered from the needs assessment will inform the program plan for community-driven childcare within the eight informal settlements where Lea Toto works. The analysis of a childcare competitor analysis will provide a framework for the availability and quality of existing opportunities. Additionally informing the program structure will be an evaluation of similar programs' effectiveness, and national guidelines from Kenya. The program plan will consist of the initiative's mission and vision, goals and objectives, activities, rules and regulations, risk management, monitoring and evaluation, and budgeting. Due to the need for startup capital, this special studies project will also include a full grant proposal and identify potential funding sources.

1.4 AIMS

Aim one: Review existing literature to gain knowledge of issues and needs related to child care, health, and development for children aged 0-5 years and their families in the informal settlements of Nairobi.

Aim two: Evaluate the need for childcare and development services in the informal settlements of Nairobi, as well as identify specific desires of caregivers themselves through community needs assessment data and published literature.

Aim three: Review global childcare and development program models, as well as evaluate the effectiveness of childcare and development facilities.

Aim four: Create a strategic model and program plan for community-based childcare services in the informal settlements of Nairobi, Kenya.

Aim five: Develop a grant proposal for the community childcare program, and apply to at least five funding sources. (See Appendices III-V)

1.5 SIGNIFICANCE STATEMENT

Accessible and affordable childcare services are extremely limited within Nairobi's informal settlements. This has posed numerous challenges to children and their families. The previously conducted community needs assessment within the Kawangware, Kariobangi and Kibera

informal settlements elucidate particular challenges that a lack of childcare poses to families within such environments. While similar assessments have been conducted in other parts of the world, namely South America and Southeast Asia, sub-Saharan Africa has yet to undergo a comparable assessment. The needs assessment presented within this special studies project will not only highlight issues regarding the need for childcare services, but also display the need for related studies in improving knowledge regarding the interplay of maternal employment and children's needs in urbanizing economies. This would illuminate avenues in which challenges can be overcome, and guide program implementation. Additionally the results of this assessment demonstrate the feasibility of conducting community-based research in the informal settlements of Nairobi, providing further support for the use of such methods.

Both the primary community needs assessment data and secondary data via published findings will inform the development of a childcare program within Nairobi's informal settlements. Without obtaining this information (particularly caregiver opinions), the program would be misinformed and likely not address the true needs of the specific community. Using community voices to construct a program will empower community ownership and sustainability. The developed strategic model and program plan will facilitate a community-relevant framework for the support of vulnerable families living in Nairobi's informal settlements. This support will come in the form of childcare and support services to be determined within Chapter Five. The detailed strategic plan will be used for grant funding to support program start-up costs. Therefore this special studies project is essential to support families in need of childcare services throughout the slums of Nairobi.

1.6 DEFINITION OF TERMS

Babycare: Existing childcare facilities in Kenya for children aged three to five years.

Childcare facilities: Centers providing daily child care services.

Children of God Relief Institute: Children of God Relief Fund (COGRF) supports the Nyumbani programs through funding and technical assistance.

Community health workers (CHWs): Members of a community who provide basic health and medical care to their community. They are unskilled healthcare providers.

Early child development: The physical, cognitive, social and emotional development of a child from zero to five years.

Early childhood education: Refers to the formal teaching of young children by people outside the family or in settings outside the home.

Early childhood: Referring to the first five years of life, early childhood is the most important phase for overall development throughout the lifespan.

Feeding program: A charitable program, which provides meals and/or food to those in need, predominantly to children.

Informal settlements: Unofficial region of a city characterized by poverty, substandard housing, and poor tenure security. Used interchangeably with slum settlements (below).

Kariobangi: Refers to a residential slum region in northeastern Nairobi, Kenya. Lea Toto has an office here. Refer to map on page 3.

Kawangware Community Daycare: The first childcare center to be implemented in Nairobi. Community health workers have been recruited to run this facility, and implementation is dependent on financial support.

Kawangware: Refers to the informal settlement area of the Kawangware suburb in eastern Nairobi. Lea Toto has an office here. Refer to map on page 3.

Kenya Community Childcare Initiative: The proposed initiative to sponsor the community childcare centers throughout Nairobi. This is under the umbrella of the Lea Toto Program.

Kibera: Refers to a residential slum region in eastern Nairobi, Kenya. Kibera is the largest slum in Nairobi, and the second largest urban slum in Africa. Refer to map on page 3.

Lea Toto: Lea Toto Community Outreach is a home-based care program in Nairobi's slums to improve the quality of life of those infect with and affected by HIV/AIDS with

medical attention, prevention education, counseling, and self-help skills. Lea Toto sponsored the childcare needs assessment and support the childcare program.

Nyumbani: Nyumbani works on behalf of children suffering from the HIV/AIDS crisis with an orphanage for HIV positive children, the Lea Toto program, and other children support services throughout Kenya.

Slum settlements: Unofficial region of a city characterized by poverty, substandard housing, and poor tenure security. Used interchangeably with informal settlements (above).

CHAPTER TWO: LITERATURE REVIEW

2.1 INTRODUCTION

The breadth of issues that must be understood prior to delving into the details of the childcare program plan are vast. This special studies project aims to provide a holistic view of the issues surrounding childcare and health in Nairobi, in order to build a comprehensive framework for the program plan. Driven to be evidence-based, as well as oriented to local needs and demand, presented will be numerous aspects related to childcare and health in the urban informal settlements. The following literature review will cover Kenya's urbanization and informal settlements, quality childcare and its' benefits, essential childcare components, consequences of poor care, and the need for childcare in Nairobi.

Due to the physical location of the program, this literature review reports on the facilitators that have led to the development of the explosion in informal settlements, or slums, throughout Nairobi. This description of the rapid urbanization of Kenya provides a key causal factor in the need for the proposed childcare program. In conjunction, the aspects of Nairobi slum life will be examined, including health, education, employment and associated challenges. This will be paired with a description of family dynamics within the slums. The combination of these factors will begin to display the framework that this program will fit into. Specific facets of quality childcare will be examined, laying out a minimum services model for the proposed program plan. Further an examination into the consequences of poor access to childcare, and poor service quality will be presented.

Sources used expanded from academic research articles, to program evaluations, and bilateral and multilateral organization reports. This included extensive literature searches in databases, using tools such as PubMed, Web of Science, and Emory's discoverE software. Within this literature review there are numerous programmatic and policy evaluations used, detailing the impact of services implemented. These sources provide insight into potential models to be used, which will be further evaluated in Chapter Four (Results). World Bank, UNICEF, WHO, Kenyan government, and USAID documents were used extensively, providing reliable data regarding health, education and social standings within the informal settlements of Nairobi. In addition numerous non-governmental organization documents and reports were examined, such as CARE, Amnesty International, Oxfam, in addition to numerous Kenyan based research and organization entities. Overall 100 articles and reports were used in this analysis. All the topics discussed combine to create a holistic framework of the current childcare situation in Nairobi's informal settlements.

2.2 URBANIZING KENYA

Overview:

Urbanization refers to an increasing proportion of entire populations residing within cities, or urban areas. Urbanization is a phenomenon that has brought opportunities as well as challenges to Kenya's economy. Kenya has been labeled as one of the 25 fastest growing countries in the world. The nation's current population has reached 40 million people, growing by an additional one million each year. Therefore by the year 2030, the World Bank estimates that Kenya will

boast a population of over 63 million. As of 2011 only 30 percent of Kenyans lived within cities, however the majority of Kenya's population growth is now occurring within urban regions. The World Bank also projects that half of Kenya's population will reside in urban areas by 2033, and by 2045 the urban population is expected to quadruple [1]. While the nation as a whole is urbanizing, no city has experienced the unprecedented growth seen in Nairobi.

While Kenya boasts 194 urban centers, over 45 percent of the urban population resides in Nairobi [27]. Kenya's 1999 census reported Nairobi's population at 2.3 million, which expanded to over 3.5 million by 2008 [3]. Nairobi's population has grown to a staggering ten-fold increase since 1960, resulting in one of the highest growth rates in Africa at 4.4% [8]. Nairobi's population is expected to reach nearly five million by the year 2020 and six million by 2025 [2]. The occurrence of this rapid urbanization creates a unique set of obstacles that challenge urban development. Despite this reality Kenya's government has been historically reluctant to acknowledge the full scale of urbanization and urban poverty in the country [3].

In 2009 the International Institute for Environment and Development (IIED) and the United Nations Population Fund (UNFPA) released findings regarding the role of planning in urbanization. They reported that the developing world would face even higher rates of poverty, poor housing, and environmental-related diseases if appropriate urbanization planning were not executed [6, 28]. Despite more people moving into towns and cities throughout Kenya, urban planning has been insufficient, leaving much of the population without essential services. Kenya's infrastructure was not designed to cater for this large population influx [29]. The rapid

growth of cities strains Nairobi's capacity to provide services such as energy, education, health care, transportation, sanitation and physical security [29].

Female and Child Migration to Nairobi:

Historically rural to urban migration has been dominated by males, and women moving into Nairobi were predominantly joining their husbands as urban centers were seen as environments for men [30]. However in recent years this standard is being challenged. The rapid population surge seen in Kenya is defined by a marked increase in female migration [31, 32]. As education opportunities and shifting cultural norms enable women to leave their rural homes, female migration has escalated significantly. A 10-year longitudinal migration study in Nairobi's informal settlements found that both male and female migration increased, however in recent years women's migration increased more when compared to men. The odds of women being a migrant in 1996 to 1999 time period were 0.85 when compared to men. Then from 2003 to 2006, females had 1.31 greater odds of being a migrant than males [33]. This research displays a trend of increasing proportions of female migrants to Nairobi.

There are numerous explanations provided for the increase in female migration to Nairobi. Some researchers state that increasing poverty within rural areas, the global economic crisis, and insecurity of agricultural work has resulted in men losing rural employment. In result women must contribute economically to support their families, often resulting in urban migration where there are more opportunities for them [14]. Another answer hypothesized is that the changes within standard household compositions and overall marriage reductions in Kenya contribute to increased female migration [15]. Regardless of the reasoning, female migration has increased

significantly, and new challenges and opportunities are arising from this occurrence.

Paralleling the rise in female migration is a rise in the number of female-headed households whom are more vulnerable to poverty when compared to male-headed households. Single mothers head nearly 80% of Mathare informal settlement households [34]. The World Bank concluded that a slum household is more likely to be poor as the number of persons in each household increases, and with the presence of more women [35, 36]. Most informal settlements report little difference between the prevalence of single female-headed households (17.7%) and single male-headed households (14.2%). However when stratified by the poor and non-poor, poor households are overwhelmingly headed by women [36]. Additionally the Nairobi Cross-sectional Slums Survey states that 15-19 year olds within the informal settlements have higher fertility rates (134/1,000) when compared to both Nairobi as a whole (71/1,000), and even their rural counterparts (119/1,000) [4]. The Urban Integration Report also found that the proportion of females migrating to Nairobi who had at least one child was 31 and 23 percent for the 35-44 and 25-34 age ranges respectively. Therefore 69 and 77 percent of women who migrated to Nairobi did not yet have a child. However by the age of 25, over eighty percent of migrant women in Nairobi have had at least one child [37].

Similarly to women, children were not originally encouraged to migrate to urban informal settlements as the conditions posed safety and health challenges, however this trend is changing. With high fertility amongst female migrants and shifting cultural norms, the number of children within Nairobi's slums is increasing [38]. Qualitative research conducted within Nairobi's informal settlements asked migrants why they moved with or without their children. Responses

predominantly displayed considerations in assessing access to child health and education services from rural regions compared to the urban informal settlements [38]. With the pull of increased access to services in urban areas, but the knowledge that these services are not always available to poor urban informal settlement residents, this decision is difficult.

Urban Poverty:

Sub-Saharan Africa is experiencing the urbanization of poverty phenomenon. Although urbanization is stimulated by economic development, it has led to distinct inequality. UN Habitat reports that within the developing worls, one billion urban residents live in poverty [20]. The World Bank reports that the average per capita income among poor households in Nairobi was 2,776 Kenyan Shillings (Ksh), the equivalent of less than $35 per month. This is insufficient and many households end up spending up to three-quarters of their income on food [3]. In result limited income remains for additional expenditures, forcing families to develop unhealthy coping strategies. Common coping strategies are removing children from school, openly defecating rather than using public pay toilets, or limiting the quantity of water purchased [39]. Kenya's overall urban poverty has declined within the last ten years, however this change has masked the increasing inequality that exists.

Since 2000 the prevalence of urban food and hardcore poverty in Kenya has risen. Food poverty refers to when an individual or family cannot meet their nutritional needs due to expenditure on other basic nonfood items, whereas hardcore poverty is the inability to meet basic food needs despite foregoing other basic necessities [5]. Currently there are over 4 million food poor living in Kenya, with nearly a third specifically within Nairobi. Therefore while some of Kenyan's

urban poor have been lifted out of poverty, those most in need have sunk deeper into poverty. Poverty within Nairobi is worst amongst individuals with low levels of education. The rate of poverty amongst those with no education in Nairobi is 69%, 48% for those with primary education, and 22% for those with a secondary education [40]. This occurrence is particularly concerning as considerably fewer children attend the later stages of school in Nairobi versus Kenya's rural areas, and many informal settlements have few or no public schools, with the cost of private schools being unaffordable.

Meanwhile gender inequalities remain severe in terms of poverty. The 2005/2006 KIHBS states urban poverty in Kenya is 34 percent. However when stratified between male and female-headed households, the rates were 30 and 46 percent respectively [41]. This is a challenge because when women are impoverished or lack the agency to manage household funds, fewer resources are channeled into food, housing, and education [42-44]. A study from Managua Nicaragua reports that children of employed mothers had better nutrition outcomes when compared to children with unemployed mothers, while controlling for socioeconomic status, maternal education, paternal financial support, child care adequacy, and the sex and age of the child [15]. This has been supported by numerous other studies [9, 11, 12, 15, 16, 42]. Therefore female poverty has an even greater impact on children.

2.3 INFORMAL SETTLEMENTS (SLUMS)

Overview:

The combination of rural to urban migration and the natural population increase, produces an unprecedented rate of urban growth as discussed above. Due to poor preparation and a lack of financial and technical resources, much of Nairobi's population lives in a urban slum (i.e. informal) settlement. The United Nations Human Settlements Programme defines a slum as, "*a contiguous settlement where the inhabitants are characterized as having inadequate housing and basic services. A slum is often not recognized and addressed by public authorities as an integral or equal part of the city* [8]." Nairobi's urbanization is characterized by expensive formal sector rent, resulting in an estimated 60-71% of Nairobi's population living within informal settlements [3, 29]. A 2006 World Bank study stated that nearly three-quarters (73%) of slum households are living in poverty [35]. Amnesty International reports that this translates to over two million people in Nairobi's slums alone [40]. Further endangering an impoverished population is recent price hikes throughout Nairobi's informal settlements.

Rapid price increases for essential items in Nairobi are increasing in frequency within urban informal settlements. For example when water is available, informal settlement residents often pay 8 times as much as the general population, while also having a higher likelihood of obtaining contaminated water. In an assessment of six major Nairobi informal settlements commissioned by Concern, Care, and Oxfam, it became evident that food prices were rising. Between December 2007 and December 2008, prices of key commodities had risen substantially, with the cost of maize rising by 133%. Rice and beans increased by over 94%, with vegetable prices increasing by 55 percent [45]. With lower income, and higher priced goods, inequality within

Nairobi is increasing. Coinciding with increased food prices, charcoal and fuel price hikes have occurred, making the production of food costs higher. Charcoal prices rose by 66%, with gas closely following with a 64% increase [45]. A study examining the impact of food price increases in Nairobi's informal settlements found that up to 90% of households had reduced the size or frequency of their meals. Dramatic price increases for basic necessities has led to coping strategies, such as including high-risk activities for money, removing children from school, or poor nutrition [3, 45, 46].

Nairobi's informal settlements were once viewed as temporary, resulting in limited planning or infrastructure development. Often slums are laid out haphazardly and therefore infrastructure is difficult to provide. For example, urban services such as water and sanitation are non-existent or minimal. Only 24% of urban informal settlement households have access to piped water, while the rest of Nairobi has access in 92% of households [4]. Therefore the majority of the population must purchase water from private companies. In a rapid assessment of 30 households in Nairobi's Korogocho informal settlements, the majority of respondents indicated poor sanitation and infrastructure as a key characteristic of slums [5]. Identified as a significant barrier to life quality is concern over latrine sanitation. The limited number of pit latrines often overflow, contaminating local environments [3, 8]. The challenges and health consequences that arise from such living circumstances are numerous.

The health of populations living within the informal settlements is more vulnerable through densely over-crowded environments. Despite the majority of Nairobi residents living within slum settlements, their total occupied land is only 5% of Nairobi [47]. In result Nairobi's informal

settlement population density is high, with as many as 1,000 persons per hectare. For comparison wealthy areas of Nairobi have as few as 4 persons per hectare [3, 5]. Nairobi's Kibera slum is estimated as 30 times as dense as central New York City [35, 48]. This facilitates the occurrence of another aspect of informal settlement life, consistent danger and insecurity. Women and children are particularly vulnerable to the insecurities of residing in Nairobi's informal settlements. With limited protection and close quarters women and children are at increased risk of harm. In 2001 a Nairobi informal settlement-based survey regarding violence displayed that one in every four women suffered from at least one form of gender-based abuse: economic, physical or emotional [3]. Over the previous two decades, violent crimes such as armed robbery, car jacking, murder, mugging, in addition to physical and sexual assault are increasing in Nairobi's informal settlements. According to the World Bank, nearly two thirds of urban informal settlement residents do not feel safe within their neighborhood [2, 49]. Additionally 27% of residents reported that a household member experienced a criminal incident in the previous 12 months [35, 49].

Historically the Kenyan government has not recognized the existence of informal settlements. The initial response to population growth in Nairobi was focused on preserving healthy environments for those already residing within the city's formal regions. In this process the government was denying services to informal settlement residents, enforcing expensive building codes, and even demolishing slum areas throughout the city. These programs have largely been unsuccessful, as they do not target the root causes of slum residency [37]. In efforts to reduce the population boom in Nairobi, some officials have promoted repatriation of slum residents back to their rural homes by invigorating rural agricultural programs. While these efforts have been more

effective than the demolishing of informal settlements, the limit to agricultural sector opportunities has decelerated success [37].

Informal Settlement Employment:

The rapidly growing informal sector continues to be the main source of employment in Kenya, while the formal sector remains stationary. Informal employment rose from an estimated 5.5 million workers in 2003 to 6.4 million in 2005. In 2003 those working within the informal sector accounted for nearly three-quarters of the total population employed in Kenya [38]. Informal sector employment consists of various economic activities, some of which are: small-scale retail, restaurants, manufacturing, community and personal services, transportation, and construction. According to a 2006 World Bank economy report, over two-thirds (68%) of adult urban informal settlement residents are economically active. It is estimated that 31% of households operate a micro-enterprise (small business), which employs 19% of the informal settlement population [35]. However Nairobi's informal settlement population still face high unemployment (>30 percent), with disparities amongst the employed [1]. Women are five times more likely to be unemployed when compared to men, with women experiencing a 49% unemployment rate [3, 35]. The majority of informal settlement households rely on one wage earner with female-headed households significantly less likely to have an income earning household member. While female-headed households are less likely to have a resident wage-earner, they are more likely to operate micro-enterprises. Nearly 43% of female-headed households have developed small businesses, decreasing the proportion of households with unemployed members [36]. The most common activities are selling food in a market and operating retail or food service kiosks. Additionally many women are informally involved in laundry and housecleaning [35].

Paralleling the high unemployment rate is the occurrence of wage reductions. According to a report coordinated by the Kenya Food Security Steering Group in 2009, the incomes of urban informal settlement residents declined between December 2007 and December 2008. The main sources of income were identified as casual wage labor with a wage reduction of 22%, firewood and charcoal marketing wages reduced by 28%, and small businesses losing nearly 27% of their wages. The only sector that did not see a reduction in wages was the formal job market, a field with limited opportunity for uneducated individuals [45, 50]. This coupled with product price increases makes vulnerable families with the urban informal settlements even more economically unstable.

Informal Settlement Health:

As a consequence of poverty and poor environmental conditions, those living within the informal settlements are predisposed to poor health. In result this population suffers from a high incidence of communicable diseases such as tuberculosis, diarrhea, malaria (and other vector borne diseases), waterborne diseases, in addition to malnutrition. Furthermore residents of Nairobi are two times as likely to have HIV as their rural counterparts [3]. In the Kibera slum, it is estimated that the HIV/AIDS prevalence rate is 14%, a rate that is nearly double the national prevalence rate of 6.3 percent [51]. Despite this increased need for health services, informal settlement residents lack adequate access to care. A 2009 study reports that the residents of the Korogocho, Viwandani and Kibera settlements have 503 health facilities. However amongst these facilities, only 1% were public, 16% private non-profit, while 83% of facilities were found to be private for profit entities [39]. The majority of these private for-profit facilities are unlicensed and

unregistered clinics. Despite the poor quality of care, these are the services available to the majority of women seeking services due to access and cost. These facilities are largely more inexpensive as they offer substandard care [39].

Children's health is particularly vulnerable throughout the informal settlements of Nairobi. Children living within Nairobi's informal settlements are among the unhealthiest nationwide. Neonatal, Infant, and child mortality rates within the informal settlements are above the national average. Within the Mukuru informal settlement for example, infant and under-5 mortality rates are double those in rural areas. Additionally, a Mukuru healthcare center analysis displayed the enormity of respiratory infections within the settlement. Over 50% of children within Mukuru suffer acute respiratory infections annually, compared to the national average which is approximately 33 percent [3]. This study reports that poor respiratory health stems from crowding, indoor pollution, inadequate drinking water, and unsanitary waste management [52]. These aspects also contribute to increased diarrhea and fever among children living within the informal settlements. Additionally contributing to poor child health is the lower immunization rates amongst children living in Nairobi's informal settlements when compared to children in rural areas [3].

Informal Settlement Malnutrition:

Child under nutrition remains a major public health concern in Kenya, particularly amongst the urban poor. Under nutrition is indicated by low height for age and reflects long-term inadequate food intake. It is associated with limiting a child's optimal development, affecting long-term performance at school and professionally. Under nutrition is both a manifestation and cause of

poverty, and globally attributed to cause over a third of under-five deaths [39]. Therefore the presence of under nutrition within an already impoverished community runs the risk of creating a cyclical pattern of malnutrition and poverty. Food shortages have been exacerbated by drought and poor harvests throughout the entirety of Kenya in recent years [19]. This combined with the increasing cost of food and fuel discussed previously has caused food insecurity within the informal settlements of Nairobi, resulting in an increased detrimental impact on nutrition for already vulnerable populations. A Concern Worldwide, Care, and Oxfam assessment revealed that more than 15% of children under five years old are suffering from chronic malnutrition, with 20% suffering from severe acute malnutrition throughout Kenya [45]. The rate of chronic malnutrition increases when focusing specifically on Nairobi's informal settlements. The gap between slum and the non-slum residing populations of Nairobi is large with 57% of children over 15 months within the informal settlements being stunted, and only 28% in Nairobi as a whole.

The Kenya Medical Research Institute (KEMRI) and CDC conducted a nutritional assessment in the Kibera informal settlement. They found that 47% of children under-five years were chronically malnourished, with half of this population (23%) suffering from severe chronic malnutrition [19, 46, 53]. Furthermore the population under-five years has a range of vulnerability to malnutrition depending on age as well. The prevalence of stunting among infants in their first year of life is 10%, whereas from 15 – 17 months the prevalence rises to nearly 60 percent within the informal settlements. Under nutrition is most prevalent within the 15 – 17 months age range afflicting 35% of children, subsequently declining to 25% after 18 months of age [39]. Most research shows that after 36 months, stunting is resistant to intervention [54-56].

These results highlight the long-term inadequate food intake and urgency for intervention experienced by the urban informal settlement population as a consequence of chronic food insecurity.

Informal Settlement Education:

Nearly three-quarters of Nairobi's informal settlement residents have completed primary school, with no significant difference between males and females. On a national scale, only 50% of the population completes primary school. These high rates of schooling are likely in response to the 2003 decision to make all primary schooling free. However while these rates are high, they do not elucidate the quality of education available in the informal settlements. For example, Kibera's Ayanya School has only 28 teachers for over 2,000 students, resulting in an average class size of 98 children [3]. Free schooling has stretched most of the schools in low-income areas beyond their capacity. Within the Soweto East region of Kibera there is no public school and only two highly priced private schools for a population of 25,000 people [40]. Therefore the free primary education program has no relevance to this population. Furthermore while rates of primary schooling are promising, completion rates drop to below one-third for secondary schooling, a rate that is below the national average and significantly lower than their rural counterparts (32% versus 55%) [40]. Overall Nairobi's informal settlements have lacked child-centered planning, neglecting the need for improved access to education.

Informal Settlement Street Children:

The prevalence of children both living and working on the streets is rising throughout Nairobi, however numbers are virtually non-existent. While some agencies have attempted to estimate the size of the problem, surveys generally have had inadequate methodology. Estimates vary from 130,000 to 300,000, with the most recent numbers developed in 2002. In 2002 the *East African Standard* reported an estimated 250,000 children living on the streets Nairobi, however this figure was critiqued for being a conservative estimate [57, 58]. Of children surveyed in one Nairobi study; over 53% of the street children were born in informal settlements with the majority residing in female-headed households. The remaining population was born in rural regions of Kenya, however they migrated to the formal and informal settlements of Nairobi [57]. The core economic activities of street children have both positive and negative manifestations. Positive activities include guarding and directing cars, assisting shoppers, and cleaning, with the negative represented by begging, drug abuse, stealing, and unsafe sex. Females are particularly involved in begging and sex-work. While working, street children consistently face harassment and abuse from the public, police, and the justice system [58]. Surveys display a low public opinion of street children, largely categorizing them as criminals, rather than children facing unethical obstacles [57].

2.4 CHILDCARE QUALITY

Background:

Childcare is defined as either an individual or facility that provides children with supervision and

care services outside of the home. For the purposes of this section, childcare refers to services provided to children five-years and younger. Childcare is an important issue beyond these years, however this is not the population under review here. With shifting cultural norms modern society largely requires some form of childcare. Childcare can range from a service only providing a safe place where children are taken care of, to preschool services that offer health, nutrition, and education components. Childcare varies widely across cultures, ages, geographical environments, income, and much more. The quality varies, and in result varying levels of positive outcomes are witnessed.

Defining Quality Childcare:

Despite the vast diversity in childcare utilization, the majority of childcare can be characterized as familial or friend provided care, informal and unregistered childcare services, or formal institutional care. Each method of care boasts various strengths and weaknesses, but most important is the quality of care, which can make a significant difference in children's development. While many aspects contribute to higher care quality, research has determined the following qualities as vital: staff ratio, the environment, safety, services, and relationships [59-61].

Staff ratios are vital as group size affects the depth of the relationship between a caregiver and child. The presence of more adults increases odds of individualized care for children. Standards are provided by the United States Health and Human services and have been used globally for setting childcare staffing standards. These standards state that a group of six infants (0 - 15 months) should be supervised by one caregiver for every three infants, or one caregiver for every

four children when there is a group of eight infants. It is recommended that no more than eight infants are cared for at one facility. In contrast the recommended standard for five year olds in a group of 16 is one caregiver for every group of eight children, increasing to one caregiver for ten children in a group of twenty [60]. Guidelines will be discussed more in Chapter Five.

A quality environment is well planned and invites children to learn and grow, while being safe and healthy. A safe area for children is essential, providing an environment that is free of abuse, neglect, and space allowing rest and play. It is also essential to provide a sanitary and hygienic facility. Similarly safety is imperative for quality care, and supporting early childhood development. Caregivers must provide constant supervision of children and have standard emergency procedures [59]. Appropriate security of the facility must also be provided. The combinations of these aspects contribute to a healthy and safe environment for attending children.

The breadth of services varies amongst childcare facilities, but increased services often predict higher quality care. Potential services to be provided in a childcare setting are: nutrition, preventative health care, monitoring child development, sick child care, counseling for child and family needs, advocacy, special needs care, parent education programs, organized play and educational activities, in addition to continuous staff training [59-61]. Additionally essential to quality childcare is a quality caregiver and child relationship. Children with positive caregiver relationships exhibit increased happiness and comfort in their environments [59]. A trusting relationship between the caregiver and parent, as well as the caregiver and child is essential to quality care. Parents must be allowed to visit the child at all times and must be informed of any

incidents or issues [59, 61]. Overall parents want to know that their child is well provided for by the caregiver.

The combination of these components creates an opportunity for positive childcare experiences and environments. While these are not the only components contributing to quality care, they are a core set of essential aspects that must be followed in the provision of childcare services. Additional aspects to consider are licensure, hours of operation, roles and responsibilities of staff, and available funds and resources.

Benefits of Quality Childcare:

Numerous studies conducted within the United States elucidate the role of quality childcare in early childhood development. Research has found that given the right quality, childcare can support child development, keep children safe, and result in better future grades, peer relationships, emotional adjustment, and conduct in schools [62, 63]. A recent study by the National Institutes of Health found that high quality childcare settings lead to higher scores on tests measuring cognitive and academic achievement in adolescents, as well as produce a lower likelihood of acting out versus adolescents whom experienced lower quality care arrangements [64]. Children and parents stated that the warmth, support, and cognitive stimulation children received from their childcare providers defined high quality childcare. This study was the first to track children for a decade after they left childcare, and has created support for increased provision of quality early childcare and education.

Numerous additional studies have confirmed these findings. One study regarding quality of care

displayed that Latino children in center-based care were more prepared for school than those in home-based care [65]. This was found in other populations more generally as well, including research on math and reading outcomes among 5th graders. In this study, it was found that quality of past childcare was predictive of achievement level, with children who had attended higher quality care centers more likely to succeed in math and reading [66]. The social, cognitive, and physical development benefits of such quality childcare programs may actually be most beneficial to low-income families who have the greatest barriers to accessing such programs [63, 67-70].

The beneficial impact of quality childcare goes beyond the United States, and has been a point of evaluation throughout the developing world in recent years. Results have yielded positive outcomes, offering positive reinforcement for increased access to childcare services. In some developing nations of Latin America, the Middle East, and Asia, official policies for early childhood services were initiated in the 1960s to 1970s [25, 71]. For example the first national agency to advocate for early childhood care programs was the Colombian Institute for Family Welfare (ICBF), established in 1968 [72]. In Sub-Saharan Africa, several nations are developing policies for early childhood development, including Burkina Faso, The Gambia, Ghana, Malawi, Mauritania, Mauritius, Namibia, Senegal and Tanzania [70]. While this is a new avenue to be explored within such settings, the potential for positive lasting outcomes are immense.

Positive outcomes from this work have resulted in advocacy for the incorporation of early childhood development into policies and programs. One program evaluation from Nepal found benefits for long-term school. They report that 90% of children who participated in pre-school

were enrolled in primary school, whereas there was only 70% enrollment for children who did not attend preschool. By second grade, 80% of pre-schooled children were enrolled, compared to only 40% of non pre-schooled children. Overall girls benefitted more [73]. An India preschool program for the lowest caste and low income population of Bihar has achieved increased long-term primary school enrollment, increased parental school involvement, increased rates of immunization, and improved control and care for diarrhea [74]. The World Bank, UNICEF, along with numerous other agencies is calling for increased attention to focus on early childhood development in the developing world [21, 22, 25, 71, 75, 76]. This intervention has vast benefits, is cost-effective, and promotes the rights of children. In result an expansion of these services worldwide is occurring, with a growing emphasis on sub-Saharan Africa.

2.5 ESSENTIAL COMPONENTS OF CHILDCARE

Overview:

The previous section provided information regarding the overall benefits of early childcare and development programs and policies. This section will build upon that framework, and discuss the essential components and benefits of childcare programs. These components must be incorporated into early childcare interventions, and their success must be monitored. Early childhood development services refer to the holistic approach to services for children aged zero to eight years and their parents or other caregivers. While there may be an uncountable number of services that would provide potential benefits to quality childcare, there are six cores outcomes of interest. These are: safety, child health, nutrition, social and emotional development, and cognitive functioning. These six key aspects are to be examined within developing world

settings, and the rationale for their essentialness will be presented.

Safety:

Safe neighborhoods and environments are particularly key for children. Nairobi's informal settlements have increased crime rates when compared to the rest of Nairobi, including increased drug use, theft, and violence, posing threats to children's overall safety. Therefore there is much concern regarding unintentional injuries for children within the developing world. Death rates from injuries are more than double in the developing world when compared to developed nations [8]. In a Namibian study, researchers found that over 33% of child injuries occurred while the child was alone [77]. In addition to decreased physical safety, when children are surrounded by these activities they experience increased stress inhibiting their child development [8, 40]. Therefore quality childcare offers reliable security for children residing in dangerous or unsafe neighborhoods.

Safe environments translate into opportunities for children to securely play. Play is important for optimal child development and has been recognized by the United Nations High Commission for Human Rights as a right of every child. Play has a central role in child development, whether it be independent or with others. Play allows children to develop their imagination, as well as physical, cognitive, and social strength [78]. Neuro-psychology studies report that changes occur within the human brain when playing, resulting in an expansion of their social and learning capacity, particular amongst children under five years. When an infant is eight months, they have 2,000 as many synaptic connections within their brain. Unfortunately these connections diminish when underused [77]. Childcare facilities offer the opportunity for children to play, and engage

with new environments, while also being safe from the dangers of the streets and slum communities.

Child Health:

Numerous studies, namely impact evaluations of field trials or programs, have delved into the role of childcare services in improving overall child health. An impact evaluation of a Columbian childcare program found significant reductions in diarrhea and acute respiratory infections, results that were more pronounced for children who spent more time in the program. For children aged 0 – 24 months diarrhea onset was decreased by 6.9% for those in the program for 16 months or more. In terms of acute respiratory infections, the Columbian childcare program displayed a decrease in the prevalence of acute respiratory infections (ARIs) by over 4% for all children from 0 to 49 months for children with greater than 16 months of exposure.

Another study from urban Nepal showed positive health results from a daycare program, particularly in terms of diarrhea. They found that among children enrolled in their program versus children on the waiting list, there was significantly less diarrhea with a 29% risk reduction [79]. These results are contrary to numerous studies published regarding childcare in the United States. Childcare in the United States is often associated with increased illness and infection, however the home exposures are often considerably lower when compared to those in the urban developing world. As previously described, Nairobi's informal settlement environments boast numerous aspects that make the population vulnerable to illness. In result when children have the opportunity to spend more of their time in sanitary and hygienic conditions, their health begins to improve.

Child Nutrition:

Childcare services have the unique opportunity to prevent stunting and wasting, as well as treat malnutrition within the most vulnerable age group (children from 0 -3 years). Numerous program evaluations and efficacy trials have elucidated the beneficial impact of infant and child feeding programs or nutrition support to prevent stunting. These evaluations display the lifelong physical and cognitive benefits of improving infant and child diets through the prevention of stunting [75, 80-83]. One longitudinal study from a Guatemalan daycare and feeding program for children < three years showed long-term positive outcomes related to schooling success and overall cognitive functioning through adulthood (25–42 years) [75]. This study found that overall caloric intake increased amongst children in the daycare program by 12%, protein by 26%, iron by 22% and Vitamin A by 85 percent [84]. Food supplementation during the first 2–3 years of life improves cognition at 3 years of age and beyond. This is a vital time for childcare services to intervene in the nutritional status of a child.

In addition to malnutrition, quality childcare in the developing world should have a component involving micronutrient supplementation, including iron, zinc, and vitamin A. For example iron deficiency is the most common and widespread nutritional disorder in the world. In particular the most vulnerable and poorest are disproportionately affected by iron deficiencies, which cause anemia. Iron deficiency anemia impedes child development [82]. The impact of anemia among infants and toddlers is not easily reversed, indicating the benefits of a preventive approach [85]. Iron supplementation for children amasses long-term physical, social, and cognitive benefits [82]. A South African iron supplementation trial displayed improved motor development amongst the experimental cohort when compared to the control group [86].

Vitamin A deficiency is also a concern for young children within the developing world, particularly amongst the urban poor. Children under the age of five face an increased morbidity and mortality risk when deficient of vitamin A. Therefore through the supplementation of Vitamin A, mortality amongst children 6 to 59 months decreases by up to 23 percent. Furthermore young children are often unable to consume enough vitamin A to prevent the effects of this deficiency without concentrated and consisted supplementation. Therefore bi-yearly high doses of vitamin A supplementation is recommended to protect children [87].

Finally zinc is an essential micronutrient supplementation, particularly for children vulnerable to diarrhea. Zinc supplementation for diarrhea treatment can reduce diarrheal mortality by 50% for children under the age of five. Zinc deficiencies are facilitated by infections that decrease caloric consumption and increase zinc loss, such as respiratory infections and diarrhea [87]. Therefore the combination of zinc therapy and an environment with decreased diarrhea and respiratory infections could result in benefits on the health of children.

Social and Emotional Development:

In addition to the physical health of children, childcare services facilitate the social and emotional development of children. The childcare program previously discussed within Colombia experienced a positive shift in healthy child growth and development among enrolled children. The Early Development Instrument's (EDI) social and emotional development section and the Penn Interactive Peer Play Scale (PIPPS) measured improvements. Study results displayed that while aggressive behavior increased by 5% (assumed to be normal with increased child interactions), social isolation dropped by 9%, with adequate interaction time increasing by

8% [84]. Children in childcare were more exposed to interactions with other children and began learning how to successfully engage. A World Bank funded Bolivian daycare program found an 11% increase in psychosocial skills for children in the program for seven months or more [77].

Another aspect of social and emotional development within childcare is the role of nurturing care. The role that nurturing care plays within a childcare model has recently been an area of focus, with indications that it is essential for healthy development [88]. Nurturing attention cannot be neglected for the entire day while mothers work. Therefore childcare program staff must be dedicated to building a bond with attending children, providing them with the utmost quality of care. In result the emotional wellbeing of the child is uplifted through reduced stress and engaging in positive interactions with trusted providers. This in combination with a nurturing and loving home situation promotes healthy social and emotional development of children.

Cognitive Functioning:

The rapid brain development of children in their first five years makes this a time period of opportunity and vulnerability. Brain maturation and neural pathways develop quickly for children under the age of five. Therefore the surrounding environment plays an essential role in cognitive outcomes. A child’s environment determines how the brain and central nervous system develop, driven by children’s sensory experiences [21]. Extensive research shows that it is difficult to develop brain cell connections without appropriate stimulation throughout a child’s first four years [20, 21, 75, 89-92]. Learning is easier in early childhood compared to an individuals’ later years in life, and this early cognitive stimulation is key to long-term skill development [89].

Long-term cognitive benefits from quality early childcare are an asset to these services, which have been associated with future schooling success. The Bolivian childcare program was found to ultimately increase enrolled children's test scores by 8 percent, as well as increased attention in class, improved effort, and regular participation [84]. Within Uruguay similar results were discovered. Children having attended at least one year of childcare-based preschool were found to have higher attendance throughout primary school. This research found that the effect of early childhood education on future school attendance also increases with age. At the age of seven, attendance was higher by 7%, increasing to 38.4% for children 15 years and older when compared to children who lacked early childcare. Furthermore the lasting effect on school attendance was larger for children of mothers with less education [89]. Additionally the Bolivian daycare funded by the World Bank reported a 15% increase in children's language skills after six months of attendance [93]. Further studies worldwide have shown that girls enrolled in early childhood programs are disproportionately better prepared for school and frequently stay in school longer [92]. Therefore there are potential increased benefits amongst the most vulnerable of children.

2.6 CONSEQUENCES OF POOR CHILDCARE ACCESS

Overview:

The previous section displayed the multitude of benefits associated with service provided through early childhood care and development programs. This section shifts to detail the poor outcomes for children, mothers and other caregivers, siblings, as well as society in result of poor childcare access. From stunted child development, decreased maternal employment, to a decline

in older girls' schooling, the impacts are vast. These components combine to alter the economic status of entire nations, an aspect of early childcare that has received extensive attention in recent years. Given the inevitability of women's multiple responsibilities if accessible and high quality childcare is unavailable within or outside the household, both women and children will suffer. The following sections will detail the essential role that childcare plays in overall child, family, and nations' development.

Impact on children:

Due to poverty and limited resources, over one-third of all children are not fulfilling their maximum potential for development. A child's most important years for survival, growth and development are from zero to three years when the child's brain is most rapidly growing [21]. Early childhood is critical in a child's future well being and learning. It is within this time frame that a child is most vulnerable to risks of malnutrition, stress and lack of nurturing and stimulation. Numerous studies have reported that an individual's intelligence potential is developed by the age of four [20, 70, 75, 84, 94-98]. Therefore early childhood care and education services are essential to promote and empower health child development.

Program evaluations have detailed the lasting impact of early childhood development services on intellectual capacity, personality and social behavior. UNICEF reports that children are developing slower due to poverty, under nutrition, micronutrient deficiencies and poor learning environments lacking adequate stimulation [25]. In result a child's entry into school, performance throughout school, and their ultimate success in life is threatened. Due to the initial learning deficit, impoverished children then face a multiplying effect as they complete far less

education than the middle class, due partially to their lowered ability to thrive in school [21]. There is the opportunity to help disadvantaged children in creating more equal early development in the earliest years of a child's life when their brains are developing most rapidly. Therefore integrative programs supporting children from zero to five years are essential to empowering impoverished children and developing their mental and psychosocial wellbeing [21]. In order to fully support the healthy development of children, a holistic approach to early childcare services is necessary. These services must aim to protect the rights of children to develop their optimum physical, social, emotional, and cognitive potential. Therefore services should include health, nutrition, education, and sanitation in both households and communities at-large [22].

As previously discussed, within a child's first three years they are developing the building blocks for cognitive, social and emotional development. When investments are not made in these essential years, a tragic loss of human potential is occurring as cost-effective interventions can and should be implemented. Therefore in order to increase the odds of success for children, particularly those within poverty, there is a need to invest in children's earliest years of life [25].

Impact on mothers (or other primary caregivers):

Current trends in urbanization have created new opportunities for women. However these opportunities have also disrupted standard practices and survival patterns that women have developed to cope with their multiple responsibilities. One key aspect affected by these changes is childcare. Childcare is increasingly addressed as largely unmet need for the changing economic and social circumstances of women throughout the developing world [12]. The

interplay of female employment and family formation within Nairobi's informal settlements is complicated and serves as a growing field of concern. Complicating labor force entry is the occurrence of most female migrants arriving in Nairobi just before parenthood. Women's employment is therefore constrained, as they have to take care of young children. In result women are confined to income-generating activities that can be conducted near their homes, or where they can carry their child, usually vegetable selling and petty commodity trade [24]. Overall women in Nairobi's informal settlements truly bear the brunt of problems associated with life in the informal settlements as they are expected to contribute to the economy while also managing childrearing.

The majority of women begin their childbearing when in Nairobi. Therefore females must negotiate their role as an economic support to household income, as well as provide care and support to children. Further complicating this issue is the heightened fertility rate of women within Nairobi's informal settlements, which is 4.0 compared to 2.6 for Nairobi as a whole [4, 37, 38]. As women enter the workforce in the developed world, there is most often a decline in subsequent births. Surprisingly women in Nairobi have a higher amount of multiple births when engaged in the labor force. This increases for women within the informal sector [37]. In result there is a large number of births that occur within Nairobi, yet infrastructure for this population is vacant in the slum settlements. With increased female migration, combined with higher fertility within the slums, it is apparent that there is a growing population of children.

Many hypothesize that higher unemployment rates and fewer working hours for females, as compared to their male counterparts, are in response to conflicting demands on women's time.

Urbanization and increased participation of women in the labor market has increased the childcare demand in low-income countries. Particularly within the formal sector one cannot work and care for a child. A World Bank publication regarding the interplay of childcare and female labor force involvement states that in order to improve maternal employment, there must be affordable and accessible childcare services available [99]. This is supported by numerous studies, which declare available childcare is an essential facilitator for women to join the work force, and improve household livelihoods [9, 11, 12, 15, 16, 42, 87, 88, 97]. In result government childcare programs are being created throughout the developing world, namely in South America and Asia. These programs seek to promote female employment through removing the barriers of poor childcare access [78]. As a result of such childcare services, maternal employment often brings increased income when childcare is utilized. Program evaluations from Brazil and India have displayed that having a child in a daycare facility increases income for working mothers who previously had to care for children by themselves [100]. An International Food Policy Research Institute discussion paper evaluated subsidized childcare in urban Guatemala. They found that the income of beneficiary mothers was 30% higher than the income of working mothers from a random community sample [13]. It is clear that access to childcare services benefit caregivers and their families, through increased time, relieved stress, and higher income returns.

Impact on siblings:

In addition to benefitting enrolled children and their caregivers, access to early childhood care has benefits for siblings, particularly young girls. Early childhood interventions remove the task of childcare from older siblings, so that they can return to school. Numerous research studies

throughout the world have reported that the presence of younger siblings (<5 years) has a significant negative effect on older girls' school attendance due to their responsibility for sibling care while mothers work [13, 14, 16, 101]. For families with young children, mothers must often choose between finding employment to provide for their families, and sending their children to school [9, 11-16, 102]. Many studies from developing countries indicate that older females in the home, particularly older daughters enhance mothers' labor force market participation by acting as substitute childcare provider. Traditionally mothers or other family members would care for the child. However as urbanization soars, extended family networks are left behind in rural areas. As such, siblings are often the only available source of affordable childcare [11, 12, 15, 16, 30, 103-105]. Therefore there is concern that older siblings, and particularly girls, are denied their right to attend school in order to accomplish their childcare responsibilities.

Impact on society:

Overtime it has become evident that investing in a child's earliest years of life has positive outcomes for society as a whole. Early childhood development program evaluations have displayed that participating children have more successful schooling and have displayed higher verbal and intellectual development when compared to children not enrolled in high quality programs [91, 92]. Therefore it is evident that promoting healthy child development serves as an investment in a country's future workforce and capacity to thrive economically [21, 92]. Early childhood researchers have suggested that the return on investment in human capital declines exponentially during the life cycle, being the highest earlier in life [89, 106]. This is not only in result of an early intervention having more time to take form and impact society, but there is also an element of low returns on investment in later life. For example, it is very difficult for adults to

experience gains in IQ after a particular age [106]. Nobel Laureate Heckman has reported that successful cognitive and emotional development in a child's first five years translates into tangible economic returns. Her work focused on the impact of early interventions in comparison to later life investments. Heckman found that early interventions yield higher returns when compared with supportive services later in life, and are certainly more cost-effective [107]. Therefore with a nationwide or region specific focus on holistic early childhood development, long-term positive outcomes could empower entire societies to thrive more efficiently and effectively.

2.7 CONCLUSION

This literature review analysis has presented vital background information regarding the community needs assessment and proposed childcare program. Evidence of the shifting patterns of urbanization and migration in Kenya was presented, highlighting the rapid change the country is facing. In result there has been an exploding population, which largely resides in urban informal settlements. Overall Nairobi's slum settlements lack childcare, development, health and nutrition facilities. The unplanned nature of slum development neglects services for children, a growing population within Nairobi's slums. In result the health of children residing in these settlements is sacrificed. With changing cultural norms of women's role in the family is leveraging new challenges when it comes to the interplay of maternal employment and childcare. Limited childcare serves as a barrier to improving the livelihoods of families, continuing the cycle of poverty. In result either women are less likely to obtain employment, particularly within the formal sector, or older siblings will be removed from school to manage childcare. These

aspects highlight the need to address this growing challenge. The informal settlements of Nairobi are undoubtedly facing a childcare and health crisis. Cost-effective community-based solutions could be implemented to overcome this barrier. The following chapter will provide a community specific needs assessment for childcare, and review published literature regarding the current childcare situation within Nairobi, and the urban informal settlements more specifically.

CHAPTER THREE: METHODOLOGY

3.1 INTRODUCTION

The Kawangware Lea Toto program team requested the completion of a community needs assessment of caregivers within their community. Lea Toto staff were struck by frequent grievances among mothers regarding challenges associated with being a working caregiver. In response staff wanted to know the relationship of employment, sibling education enrollment, and the availability of childcare throughout their program communities. As the role of women is shifting, and they are managing both employment and childrearing, new barriers arise. Therefore a community needs assessment for childcare in Kawangware, Kibera, and Kariobangi was conducted from June to August 2012.

Through focus-group discussions (FGDs) and surveys, community opinions regarding the issue of childcare were obtained. After the results of the needs assessment were announced in Kawangware, community health workers began conducting a competitor analysis throughout the informal settlement. The goal of this analysis was to gain an understanding of current services available, and what need exists to develop new programs or services. In conjunction a literature review of the existing programs available in Nairobi, as well as the national child care policies will be assessed. Further informing the program plan and strategic approach is a childcare model evaluation. This research surveyed diverse childcare facility models from rural and urban regions. Worldwide models were assessed through impact evaluations and progress reports from non-governmental organization and bilateral agency reports. Program services, capacity,

mission, and efficacy were evaluated, informing a programmatic model for a Nairobi-based facility.

The following sections provide methodological aspects of the community needs assessment, competitor analysis, as well as the existing model evaluation. Included in the methodological descriptions are the population and sample, recruitment, procedures, instrument development, data analysis, and limitations.

3.2 FOCUS GROUP DISCUSSIONS:

Target Population and Sample:

The community needs assessment primarily focused on the demand for childcare, current service usage, and the potential benefits associated with access to childcare. The overarching goal of the assessment was to gain a community-based perspective from those who live and work within the informal settlement community. As the results are to inform community-support programs, Lea Toto wanted to understand the true need from the clients themselves. Therefore social service and medical providers, in addition to caregivers were targeted for the assessment.

Furthermore, the assessment aimed to understand the specific needs of a defined community, rather than generalize to the larger informal settlement population of Nairobi. As such three separate community needs assessments were conducted. The first needs assessment was completed in the Kawangware urban informal settlement. This location was chosen as staff in the Kawangware Lea Toto center were first to acknowledge the rising challenge of maternal employment and childcare services. The second community assessed is the Kibera informal

settlement population, and lastly was the Kariobangi community. Kibera was chosen second as the informal settlement is far older and known to experience higher levels of poverty when compared to Kawangware. Both of these sites are in western Nairobi, whereas Kariobangi is in northeastern Nairobi. This provided a diverse geographical region. Kariobangi is the same age as Kibera.

Within each informal settlement, there was one focus group discussion with social workers and one focus group discussion with community health workers. The exception is the Kariobangi community, which lacked a focus group discussion with social workers due to a severe weather cancellation. The focus group discussions were conducted separately with social workers and community health workers (CHWs). FGDs were used as qualitative methods are an effective way to gather information while contextualizing experiences and expectations.

Social workers are Lea Toto social programs department staff. Each individual had a bachelor's degree in social work, with one social worker in training. Duration of employment with Lea Toto varied from four months to five years. Ages of the social workers varied from 21 years to 44 years of age. The social workers' sex distribution varied by site, with Kawangware boasting an even divide, and Kibera solely represented by females. The majority of the social workers lived in the region where they worked, increasing their understanding of the community. Social workers were chosen as they had daily contact with caregivers and their families, assessing their needs and counseling clients. Therefore they had a high depth of knowledge regarding the livelihoods of families within the community. The social worker focus group discussion was conducted at each urban informal settlement site. Therefore there were a total of two social

worker focus group discussions, which resulted in the participation of eleven social workers. Find the number of participants within each focus group discussion in Table 1 below.

TABLE 1: Focus Group Discussions By Population And Location

Population	Location	Number of Participants
Social Workers	Kawangware	6
Social Workers	Kibera	5
Community Health Workers	Kawangware	7
Community Health Workers	Kibera	16
Community Health Workers	Kariobangi	10

The second focus group discussion conducted within each urban informal settlement was in conjunction with community health workers. Community health workers are local residents who are trained in basic health and medical services. They use these skills to care for their communities, and refer clients to seek further medical care. They have not received formal education, and most have not completed secondary schooling. CHWs who contributed to the focus group discussions were volunteers for the Lea Toto program. This role required them to visit the homes of Lea Toto clients and assess their health condition, HIV drug adherence, and counsel families through any challenges they are facing. CHWs also had additional posts within the urban informal settlements, often with nearby government or humanitarian clinics, or other social work programs within their community. Their role is voluntary, as they are not paid for their services.

Community health worker participants in the focus group discussions ranged from 34 to 58 years of age. The sex of participants varied, with no males in Kariobangi and only one male in Kawangware, yet nearly half of the Kibera CHWs were male. Their experience with Lea Toto was extensive, spanning from the shortest period of three years, to the longest period of thirteen years. This cohort was chosen as they are a part of the community and provide social services to local caregivers. Their knowledge of the community and the community's needs is strong, enabling them to provide accurate information regarding the needs of children and their families. One focus group discussion was conducted at each site, totaling three CHW focus group discussions. The total number of participants across all three sites was 33 community health workers.

Recruitment:

Social workers were recruited for the focus group discussions due to their site location. All employed social workers were asked to participate, and the focus group discussion time and date was scheduled to make that possible. For both social worker FGDs, all Lea Toto site employees were included in the discussion. The recruitment process for community health workers was slightly different. At each site there are 16 – 30 community health workers. All community health workers from each site were called a week ahead of time by their respective social worker supervisors, and asked to come to the Lea Toto clinic for a focus group meeting. The day before the meeting they were reminded to attend. While they did not receive pay, they were provided with a light snack and beverage for their participation.

Instrument Development:

The investigator developed the focus group discussion guides. Initially the discussion questions were developed regarding the challenge of working mothers. There were three major segments to the tool: impact of young children on caregivers, need for daycare services, and childcare visions. Once a draft of the questionnaire was developed, they were sent to the Lea Toto Kawangware Centre Administrator, Program Director, two social workers, and the monitoring and evaluation specialist. These individuals reviewed the tool and provided feedback. Subsequently the tool was updated with their comments and re-sent to the Program Director and Centre Administrator for confirmation. Along with the questions were the guidelines, rules and introductory script. The focus group discussion guide was approved before the first session.

Procedures:

All focus group discussions were led by the investigator to maintain consistency. For social workers discussions were conducted entirely in English as all participants were fluent English speakers. FGDs with community health workers were conducted both in English and Kiswahili. While all participants spoke English, some were more comfortable in speaking Kiswahili. For these individuals there was a translator present. All questions were translated into Kiswahili both written and verbally. Statements made in Kiswahili were then translated into English. All but one (CHWs in Kariobangi), focus group discussions were recorded with permission from all participants.

The focus group discussions were hosted within each site's meeting hall. Therefore the social workers remained in their respective centers, and the community health workers attended their

usual clinics within their community. The goal was to have six to twelve participants in order to engage lively discussions, however this was not always possible. Participants were first informed of the FGD purpose, uses, rules for discussion, and their rights as participants. Each focus group discussion lasted between 50 and 90 minutes.

While the FGD guide for social workers and CHWs were very similar, there were a few distinctive questions for each. Namely CHWs were asked about their interest in working on a community-based childcare initiative if one were to be initiated. With the use of the FGD guide, the researcher prompted participants in questions regarding the role of childcare and its' impact on families livelihoods. Questions also probed regarding the potential model and strategy that should be used for any childcare intervention. Each question was written on a large poster board for participants' reference. The investigator's role was to facilitate the group discussion, and take notes on their comments. When participants seemed confused as to how to respond, or a lull in the conversation occurred, the investigator prompted further discussion.

Data Analysis:

Qualitative data analysis was used for the focus group discussions. Full focus group discussions were transcribed, documenting exact quotes and ideas of the participants. The only exception is the community health worker focus group discussion from the Kariobangi community. All transcripts were thoroughly read twice before any coding occurred. Subsequently through the use of focused coding, theme development and assignment was conducted throughout the transcripts. Themes stemmed from patterns and contrasts determined from the various focus group discussions. Themes were coded using the MAXQDA software. Specific quotes and recurring

themes were highlighted, which will be presented in chapter four (Results). A typology classification system (or exhaustive listing) was also used to present all relevant statements surrounding a particular question.

Limitations:

There are a number of important limitations to consider in terms of the focus group discussions. First and foremost was the use of Lea Toto staff and community health workers only. All discussions were hosted with individuals working directly under this program. This may skew the perceptions and ideologies that are represented within the sample. Further, not all focus group discussions had the target range of participants (n=6 – 12). One FGD only had five participants, while another had sixteen. Not only does this not follow the recommended standards for focus group discussions, the varying number of participants may have created incomparable results as there were diverse group dynamics. While English was the most appropriate language for social workers, there were some challenges with community health workers. All CHWs spoke English, but a few (n=6 / 33) were more comfortable speaking Kiswahili. Therefore a translator was present, translating all questions and comments. There is the potential for hesitations in verbal communication when an individual is more comfortable in a language not being used by the group.

3.3 COMMUNITY SURVEY METHODOLOGY

Target Population and Sample:

Accompanying the FGDs was a community survey. This quantitative tool was used to measure ideas and opinions about childcare issues from the caregiver population. Caregivers were a child's mother, grandmother, father, aunt, or unofficial foster parent. The majority of respondents were the child's mothers. Surveys were restricted to caregivers of children five years or younger. This targeted children who were not yet enrolled in primary school. Caregivers were chosen to understand the role of childcare in a caregiver's life and the demand for and usage of services. Often the beneficiary voice is absent from program development, and this community needs assessment assured their participation. From each of the three sites, the goal of 30 surveys was reached, with the Kawangware site achieving 36 surveys. Therefore there are a total of 96 community caregiver surveys. Find Table 2 below detailing the breakdown. All respondents were from Lea Toto client families, and not the general population, representing a convenience sample. This means at least one of the caregivers' children must be HIV positive.

TABLE 2: Community Survey Respondents By Population And Location

Population	Location	Number of respondents
Caregivers (mothers, aunts, grandmothers, fathers, siblings)	Kawangware	36
	Kibera	30
	Kariobangi	30

Recruitment:

Surveys were distributed using a convenience sample at the Lea Toto clinic and throughout the community via social workers. At each Lea Toto site there are three neighborhood divisions of

the urban informal settlement, each with an assigned social worker. Ten community surveys were distributed to each neighborhood for completion. Social workers conducted their community surveys while making home visits or when clients came into the office. This ensured that the sample came from all regions of the specific urban informal settlement. Some (Kawangware n=2, Kibera n=5) surveys were also distributed at the clinic through the site's nutritional advisor. All client families attend the clinic monthly, and receive a monthly visit. Through this process, all families had the opportunity to complete the community survey. Each settlement consists of a diverse population with varying levels of income, housing quality, education, and more, therefore it was essential to obtain surveys from the entire population. Some (Kawangware n=2, Kibera n=5) surveys were also distributed at the clinic through the site's nutritional advisor. All client families attend the clinic monthly, and receive a monthly visit. Through this process, all families had the opportunity to complete the community survey.

Instrument Development:

The survey was developed in conjunction with the Lea Toto Kawangware social workers. In a brainstorming session, they developed the main questions they wanted answered by the caregivers. The investigator compiled all the questions, and created a one-page survey. It was vital that the survey could be completed quickly, as home visits were already burdened, and the social workers have many visits to make. Once the one-page survey was completed it was sent to the Program Director and the monitoring and evaluation specialist for approval. No revisions were required.

Procedures:

All social workers were fully trained in executing the community survey. Surveys were anonymous and always completed in private space. The survey itself was in English, but was translated into Kiswahili by the social work surveyors. Responses were then documented in English. Surveys were carried out verbally, and respondents answered in their own words. This means that rather than listing the options for responses, community surveys were conducted more freely as a conversation. Lea Toto stated this would result in more honest answers. When responses did not match the listed options on the survey, answers were documented. Each survey took about 10 – 15 minutes to complete.

Data Analysis:

Community survey data will be cleaned, coded, and analyzed using Microsoft Excel software. Basic indicators will be developed from survey responses. Trends and themes in the data were explored using descriptive statistics, including frequencies, averages, and modes. Using the household information collected, important differences between number of children, ages, and presence of a secondary caregiver were assessed. Frequencies were the most important analysis tool for assessing which issues are the most important to participants within the community and which services are most needed. This needs assessment analyzed for trends in the data in order to identify the most salient childcare needs of the community. Descriptive tables and charts were produced and the findings documented to understand the community's desires. Data was subsequently reviewed by Lea Toto's Program Director and Kawangware Centre Administrator.

***Limitations*:**

Due to the community-based nature of the research, emphasis was placed on hearing the voices of those affected rather than statistical robustness. The survey was only conducted with Lea Toto clients, neglecting a vast population that lives within the informal settlements. There is potential for Lea Toto clients to differ in a substantial way from the general population (i.e. they are all HIV positive). Additionally this means that the surveys were not distributed randomly throughout the community. Other limitations are that a lack of piloting prior to distribution and the low number of respondents. While 96 surveys surpassed the minimum number of surveys required for appropriate significance, more surveys would have provided further evidence. Lastly the length of the survey itself was short, omitting questions that would have been beneficial, however were cut from the final version due to time constraints.

3.4 COMPETITOR ANALYSIS METHODOLOGY

Target Population and Sample:

Post- community needs assessment completion, community health workers conducted a competitor analysis for childcare services. This analysis sampled existing childcare services for children under five years within Kawangware. Ten community health workers participated, surveying facilities within their respective neighborhoods. Facilities included standalone (n=15) and school-based (n=8) services. In total 23 facilities were identified and surveyed.

***Recruitment*:**

Recruitment for the competitor analysis was completed through community health worker's knowledge of local services and facilities. Most community health workers knew of local facilities, and targeted these centers for evaluation. Community health workers walked through their neighborhood, seeking out childcare facilities, surveying available managers.

***Instrument Development*:**

The competitor analysis was developed in conjunction with community health workers. Community health workers expressing interest in a community childcare project participated in survey development. The investigator compiled their ideas and created a short survey that was approved by the Lea Toto Kawangware Centre Administrator and Program Director. The survey asked questions regarding the registration status of childcare facilities, location, cost, nutrition, capacity, and daily activities. The tool is quantitative, with some qualitative notes and/or remarks regarding service quality.

***Procedures*:**

Community health workers obtained facility information using the standard survey. Again the survey was developed in English, and translated verbally into Kiswahili. This was at the request of the community health workers. Each survey took ten to fifteen minutes to complete.

Data Analysis:

The competitor analysis data provided Kawangware specific information regarding the childcare services available within the community. Survey results were cleaned and analyzed in Microsoft

Excel, producing frequencies of various childcare factors. This analysis provided an understanding of the current breadth of available services, their demand, and overall quality within the Kawangware informal settlement community.

***Limitations*:**

While the competitor analysis provided vital insights into the existing services available, some challenges became apparent. Firstly the survey responses were subject to the manager and/or owner's opinions, and therefore may have been inaccurate. For example, many facilities do not want to advertise that they are not registered as this could result in their closure and/or fines. Such realities may have skewed results. Moreover the competitor analysis was conducted during school breaks, and therefore most childcare facilities were not open. As older siblings were not in school, caregivers were able to relinquish childcare duties to them. As such the existing facilities largely shut down, and their existence may not be represented in the analysis.

3.5 CHILDCARE MODEL EVALUATION AND PROGRAM PLAN DEVELOPMENT

Target Population and Sample:

The programmatic model evaluation was conducted through literature reviews, program evaluation documents, as well as World Bank, UNICEF, and CARE reports. The sample used represents various models of child care services and facilities available worldwide. In order to obtain a holistic view of potential program opportunities, this evaluation assessed diverse programmatic frameworks from varying contexts and environments. Urban formal and informal childcare models were examined globally. A total of eighteen models were evaluated from

home-based education services to national policy level interventions. Within the evaluation are program services, capacity, mission, and efficacy will be presented.

Procedures:

In order to obtain and present the childcare model evaluation, extensive multilateral and non-governmental organization program evaluations and reports were consulted. This developed a substantial list of childcare centers worldwide. All facilities were then categorized into various sections, enabling a systematic evaluation. One to two models from each segment were highlighted.

***Limitations*:**

While documents detailing specific programs and their general outcomes were easily accessible, impact evaluations were difficult to locate. UNICEF, CARE, and the World Bank provided reports regarding worldwide child care support programs, offering evaluations and recommendations. However these evaluations often lacked robust methodology. Therefore while positive outcomes were reported, specific indicators were not always available.

CHAPTER FOUR: COMMUNITY NEEDS ASSESSMENT

4.1 OVERVIEW

Published research and programmatic results have presented an environment in which there is need for early child care and development within Kenya, and more specifically throughout informal settlements. A literature review of Kenya-specific childcare presents a nationwide framework regarding the state of national programs and policies. Subsequently to bring the discussion local, results from the informal settlement community needs assessment are presented. The needs assessment analyzed here uses a multi-method design with focus group discussions and surveys. These tools were designed to gauge the impact of poor childcare access on children, mothers (or other caregivers), and siblings, while also depicting how access to childcare services would benefit these families. Results were examined in relation to the perceived need of childcare services within the community. Subsequently community-minded intervention strategies were developed from local leaders within focus group discussions, and probed on specific outcomes from childcare services desired.

The needs assessment outcomes are discussed within this section, detailing the caregiver survey and focus group discussions separately. The caregiver survey results present household information, impact of having a child under five, usage and knowledge of childcare services, as well as daycare desires amongst respondents. Focus group discussions analysis established the major themes in terms of the interplay between young children and maternal employment, i.e. the impact of having a child under five years, access to childcare, childcare models to be

implemented, and community engagement and mobilization strategies.

Throughout all analysis, several results are presented across all three sites, with some presented specifically for one particular informal settlement. Additionally a competitor analysis from Kawangware is evaluated and reported, identifying any related services within the community. Specific information regarding existing childcare services is their capacity, cost, and quality of care. The competitor analysis enables a program that is addressing real need, avoiding duplication of efforts, and built to be locally relevant.

4.2 EARLY CHILDHOOD SUPPORT SERVICES IN KENYA

Background:

When Kenya gained independence in 1963, the nation employed strong efforts to improve the health, nutrition, and development status of children. This was characterized by child-focused policies and early childhood education support. Therefore there was a surge in child-focused services nationwide, particularly targeting three to five year olds. Despite this increased demand, there have been challenges in rolling out effective and quality early childhood program throughout Kenya, especially services for the most vulnerable children. Furthermore recent research has displayed amidst Kenya’s modernizing society, caregivers are not stimulating and caring for their young to the same extent as more traditional or rural societies [12, 13, 15, 20, 82, 84, 88, 90, 108, 109]. In result this has been hypothesized to stunt children’s healthy social, cognitive, and physical development [109]. Therefore support and advocacy for early childhood care and development services has increased nationwide.

Early Childcare:

Services for children under three years of age are not well developed, nor readily available throughout Kenya [110]. The facilities that do exist are informal and unregistered. Children aged zero to two years most frequently receive home-based care from their mothers, other female relatives, or older siblings. For working mothers in Kenya, some are able to obtain paid child caregivers, which are usually untrained older girls who have dropped out of school [104]. Beyond just limiting school enrollment, this practice is costly and therefore unavailable to most. For working mothers who have poor social support and lack the funds to pay for in-home childcare, options for childcare are extremely limited. Therefore it is reportedly very common for working mothers in Kenya to remove older girl siblings from school to provide care [104]. When children reach three years of age in Kenya, they have more options are they are able to enroll in early childhood programs.

In addition to limited options for early childcare the quality of services currently operating are inadequate and yield consequences for the health and development of attending children. In 2011 the Orphans and Vulnerable Children's Project in Africa conducted a survey analysis of existing “baby care” centers in various informal settlements of Nairobi. This assessment defined a baby care center as a facility providing daily care to children aged 4 months to 3 years. A total of 67 baby care centers in three slum settlements were assessed [61]. The survey results reported extreme quality issues from hygiene, to low-skilled caregivers, to food insecurity [61]. The environmental conditions were reportedly lacking sanitation, including unclean water, unhygienic toilet usage, and soiled clothing. Researchers reported that caregivers were untrained

and therefore unable to fully meet the needs of attending children. Paralleling this issue was the sheer level of overcrowding found within facilities. Most centers had one caregiver to 15 or more children, making individualized and loving care difficult and most commonly inadequate for young children's developmental needs. Finally the assessment found that the baby care facilities within Nairobi's informal settlements lacked play materials, and attending children were found to spend most of their time sleeping or sitting, showing signs of aggression, worry, and sadness [61]. The combination of these issues creates a poor environment for children to reside within, and challenges their healthy development.

Early Childhood Development:

In 1984 Kenya's Ministry of Education responded by initiating the National Centre for Early Childhood Education (NACECE) program, which advocates for community-based models for sustainable early childhood development (ECD) programs [111]. Kenya defines early childhood development policy as the care, development, and learning of children aged zero to five years [109, 111, 112]. NACECE oversees the following services: Nursery Schools, Pre-Unit Class, Kindergarten, Day Nursery, Madrassa and Home-Based Care Centers. This policy requires that all ECD programs provide holistic child development, addressing the physical, social, and cognitive needs of children [94]. NACECE states that, "For children to realize their full potential in life they require quality healthcare, nutrition, early stimulation, protection, care and training services" [109].

In 1990 enrollment of children aged three to five years old stood at 800,000, a massive increase within six years. The rise in utilization continued with 1.7 million children enrolled within early

childhood development programs in 2008 [113]. Paralleling this increase was the massive proliferation of early childcare centers from 15,469 in 1990 to 37,954 in 2008 [113]. However while Kenya originally saw an increase in early childhood development program enrollment, center services and quality of care varied widely. In evaluating programs nationwide, NACECE identified consisted concerns for existing facilities. The analysis found that the majority of early childhood centers are not registered, and therefore not tracked by the government [94]. The most pronounced challenges were as follows:

- Poor access for impoverished and marginalized communities.
- Diversity of facility quality, trained personnel, and activities within centers.
- No policy and limited services for children up to three years of age.
- Staff wages varied greatly with irregular payments.
- Poor monitoring and supervision of children.
- No pre-schools to primary school transition assistance available.
- Funding and resources are low [94].

Furthermore, in 2003 the rate of ECD usage began to drop in response to the creation of free primary school for all Kenyans [8]. The new free primary education policy did not include pre-primary services, resulting in their decreased use, as families believed this service should be free as well. The 2004 UNESCO/OECD Early Childhood Policy Review observed a negative effect so large the results warned of a potential breakdown of national ECD services [114]. When compared to private centers, enrollment reduction was most pronounced in public and community-owned ECD services, which typically serve the most vulnerable children. Further there are consequences related to resource allocation as the ECD services are privately paid for,

and primary school government funded. With decreased enrollment and resource rechanneling to primary school, funds and support has been shifted away from ECD. In result ECD centers experienced reduced space, transitioned to poorer quality classrooms, and government monitoring nearly discontinued [114]. While this was an unintended consequence of the free primary education policy, it has life-long repercussions for young children and their communities within Kenya.

4.3 CAREGIVER SURVEY

Overview:

The caregiver survey was designed to give mothers and other primary caregivers a voice in the needs assessment. Therefore the survey was not designed to be representative of the populations in this region or to compare between the regions. As such results elucidate patterns and cannot detect statistical differences between the sites. Each site distributed at least 30 surveys, with 96 conducted overall. All respondents had a child under the age of five, lived within the local community and had at least one child enrolled in the Lea Toto program. Major themes addressed in the survey were the impact of a child under five, daycare usage, as well as recommended daycare standards.

Household Information:

The caregiver surveys were conducted across all three sites. With 96 surveys completed overall, there were 36 from Kawangware and 30 each from Kibera and Kariobangi. Within each informal settlement, there are various small regions that have their own identity. For example within

Kawangware there are three distinct neighborhoods, which are Riruta, Kawangware, and Gatina. Kariobangi and Kibera are similar with multiple separate sections of the informal settlement. In an attempt to maintain survey diversity, each neighborhood was pursued to gauge a large range of opinions within each informal settlement. Important distinctions do exist. For example, the Riruta neighborhood in Kawangware is has a higher standard of living when compared to Gatina in terms of income, access to child health and care services, as well as education.

In terms of understanding the need for childcare services, it was essential to identify the number of families whom had a secondary caregiver. A secondary caregiver is someone who will provide support to children, in addition to the mother or any other primary caregiver. If the mother is unavailable they serve as the caretaker, and ensure the child's health. This is a common term and situation in Kenya. A secondary caregiver can be the father, an aunt or uncle, neighbor, or even the child's sibling (most frequently a sister). Across all sites 70% of children had secondary caregivers, with little variation amongst Kariobangi and Kawangware at 77% and 78% respectively. Among families in Kibera on the other hand, only 53% of children had a secondary caregiver. See Table 3 above for more detail.

TABLE 3: Percentage of Children with Secondary Caregivers Among Lea Toto Caregivers in Kariobongi, Kawangware, and Kibera (n=96)

Kariobongi	77% (n=23)
Kawangware	78% (n=28)
Kibera	53% (n=16)
ALL SITES	**70% (n=67)**

The relationship of the secondary caregiver to the child provides insight into the role of available childcare. For example, when the father is the secondary caregiver, social workers within the

focus group discussions reported that they will not provide childcare services for women as they work or complete household tasks. Additionally providing insight into the need for childcare is if the secondary caregiver is a sibling or sister (both identified separately). As presented within Chapter 3 (Literature Review) states that siblings of young children are often removed from school to care for their younger sibling if the mother (or other primary caregiver) is unavailable. The prevalence of caregiver survey respondents stating siblings served as their secondary caregivers is 6.2% in Kibera and 7.1% inKawangware with 7.1 percent. Contrastingly in Kariobangi over 17% of the secondary caregivers were siblings.

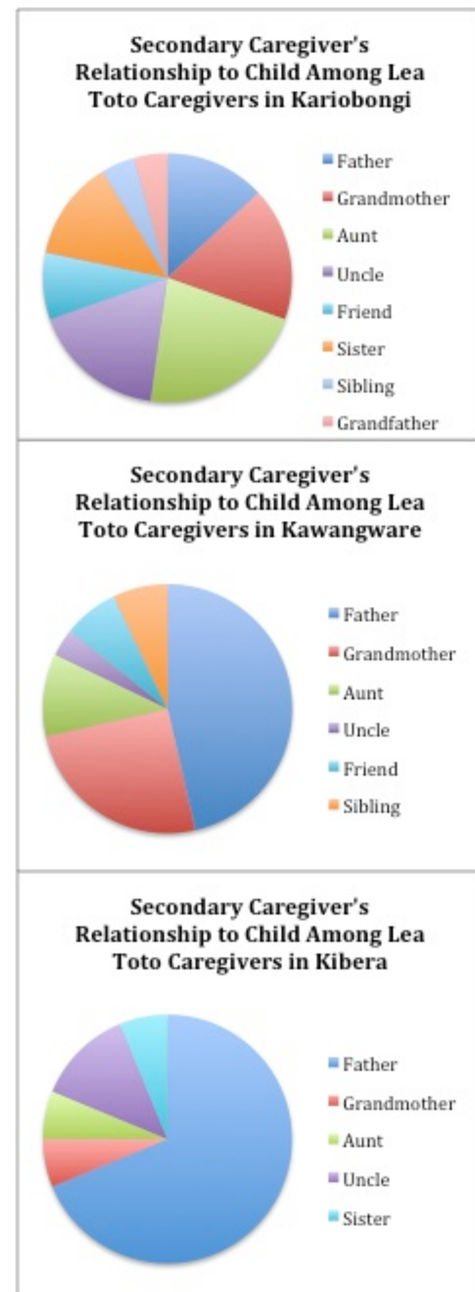

Figure 3: Secondary caregiver's relationship to child by informal settlement site.

Overall the most common secondary caregiver in Kawangware (46%) and Kibera (69%) was the child's father, an aspect absent from Kariobangi, where fathers only represented 13% of the secondary caregivers. Excluding siblings in Kariobangi, the majority of secondary caregivers were grandmothers and aunts (17.4% and 22% respectively). Grandmothers are a vital source of care for children within these communities and highlight less need for childcare services. However there presence is often

limited, as most young mothers have left their family behind in rural regions. In Kawangware 25% of secondary caregivers were grandmothers, with only 6% in Kibera. Overall while more siblings serving as the childcare provider in Kariobangi, there are less fathers serving within this role. Therefore there is diverse need in providing childcare throughout the three settlements. With Kariobangi representing a large need to improve siblings' school enrollment, in Kibera and Kawangware there is more need to supply any source of available childcare as those with a father serving as the secondary caregiver largely struggle in having any home-based care available. See the complete breakdown of secondary caregiver type above.

Subsequently the caregiver survey examined the employment status of mothers, asking caregivers what they do to earn income. The definition of income was broad, indicating anything that provided financial assistance to the family (whether formal or informal), as well as disregarding the frequency of such efforts. Overall 68% of caregivers stated that they engaged in some means to earn money. Over 27% of this income is from undisclosed causal labor, and an additional 19% periodically washing clothes. Further, small businesses (7.3%) and selling produce (6.3%) were common across all three sites. Additional activities for maternal income were tailoring, selling soap, hairdressing, cooking street food, and crafting. Employment status varied across sites with Kawangware reporting no maternal income for 47% of the respondents surveyed. Dissimilarly in Kibera only 26.7% of caregivers reported no income activities, and 16.6% in Kariobangi. Additionally the major income generation for women varied, with washing clothes as the most common for Kariobangi (30%) and Kawangware (19.4%), and casual labor representing Kibera (46.7%). Find detailed results for each informal settlement community below.

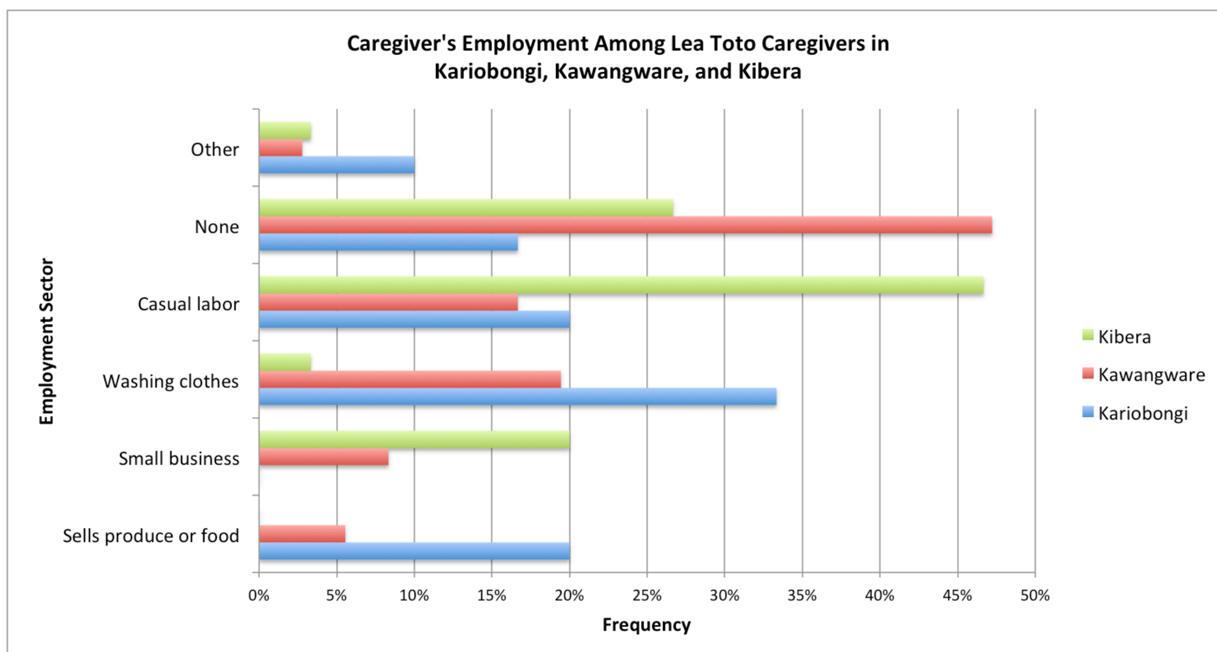

Figure 4: Caregivers employment type by informal settlement site.

Impact of Children < 5 Years:

Overall 49% of respondents stated that it was difficult to find time to work with a small child in the home. This was particularly pronounced for Kariobangi who had 76.7% of mothers report it was difficult to find time to work with a small child in the home. Contrastingly in Kawangware only 42% reported this, however an additional 21% reported that it was hard to find and keep work because there was no one to care for the child. In Kibera 30% of respondents reported that it was difficult to find time to work with a small child in the home, with 20% reporting it was hard to find and keep work because there was no one to care for the child.

Also evident across all sites was an indication that working was difficult with the child under five present. In Kawangware this represented 8% of the respondents, increasing to 23% for

Kibera residents. Often women conduct their daily chores and activities while carrying their child on their back. While this allows women to work, it can often be a barrier to effective employment, and serves as a deterrent for any formal employer. Overall the three sites reported that 9.6% of respondents experienced no impact on the ability of maternal employment with the presence of children under five in the household. Seventeen percent of Kawangware respondents reported no impact, with Kariobangi at 3%, and Kibera at 10% total. It is evident that there is a negative impact on maternal employment with the presence of a child under five within the household. Only a few respondents mentioned they were able to leave their child with someone else, and therefore able to focus on work. In this sense there is clear need for increased access to some form of childcare in order to increase the ability of maternal employment within the informal settlements of Nairobi.

Due to these challenges mothers often seek childcare services within the home, community, or nearby daycare. When caregivers were asked what childcare method they used when working, conducting chores, or otherwise leaving the home, they provided insightful responses. Overall the majority of respondents stated they leave their child with someone else, ultimately representing 56% of the respondents. The informal settlement reporting this occurrence the least was Kawangware with 47% stating they are able to leave the child with someone. Kariobangi reported the highest prevalence of 66 percent. Conversely Kawangware reported the highest percentage of taking the child along for work and chores, reported by 66.7% of respondents. Kariobangi only reported 16.6% of caregivers carrying the child along throughout necessary tasks, with Kibera reporting 33.3% of respondents doing so. See the full breakdown across sites in Figure 8 below.

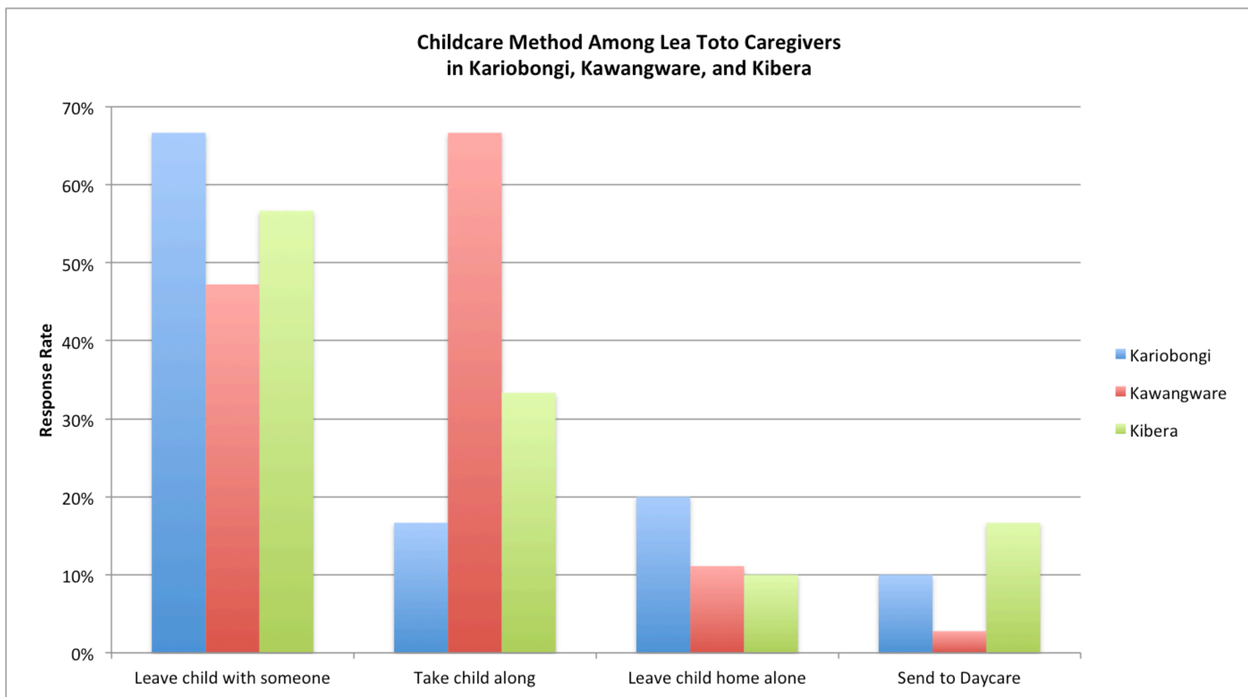

Figure 5: **Method of childcare by informal settlement site.**

While a majority of the respondents reported that if they have to leave the home for work or chores, they leave their child with someone else, this does not automatically mean there is no need for childcare services. The survey obtained the specific individual providing this care as to begin understanding the demand and need of childcare based upon who is currently used. Important to note is the occurrence of sibling provided care over half the time for Kariobangi (55%), and nearly half for Kawangware (48%). While this may not always occur during school hours, it is important to note that this is the most common childcare provider and this practice if conducted during school hours could reduce school attendance significantly.

The second most frequent provider of childcare is a neighbor. It is important to note this can often be a neighbor's child as well. Neighbor care represents 24% of all childcare overall, being used by Kibera most frequently for 41% of respondents. This has been hypothesized to result

from the long-standing nature of Kibera, and therefore increased social networks. Grandmothers and aunts were used the least frequently among the top five providers of childcare at seven percent overall. See the full breakdown across sites in Table 4 below.

TABLE 4: Top 5 Persons Child is Left With Among Lea Toto Caregivers in Kariobongi, Kawangware, and Kibera (n=54)

	***Kariobongi** (n=20)*	***Kawangware*** (n=17)	***Kibera*** (n=17)	***ALL SITES** (n=54)*
Sibling	55%	48%	36%	**40% (n=22)**
Neighbor	10%	24%	41%	**24% (n=13)**
Friend	5%	18%	12%	**11% (n=6)**
Aunt	20%	0%	0%	**7% (n=4)**
Grandmother	5%	6%	12%	**7% (n=4)**

Daycare Usage and Knowledge:

The caregiver survey also probed mothers regarding current and past usage of daycare services. These questions aimed to identify the demand and existing services within the local informal settlement communities. The survey also delved into the cost of such services, and the overall satisfaction with the childcare provisions. This section also provided the opportunity to identify the daycare facilities used by the respondents, as well as who they were owned by.

Overall 77% of respondents knew of daycare facilities in their community, whether formal or informal, however only 46% had ever used their services. Current use dropped to 19%, with most respondents using daycare one to three times per week. Kawangware had the lowest rate of daycare knowledge at 69%, with only 28% of respondents having ever used daycare services. When asked about their current use, only 14% responded with yes. Kibera had the most current use of daycare services with 23% usage. Find the full breakdown overall and across specific sites in the Table 5 below.

TABLE 5: Percentage of Caregivers Utilizing Daycare Services Among Lea Toto Caregivers in Kariobongi, Kawangware, and Kibera (n=96)

LOCATION	***% Know of Daycare Facility***	***% Ever Used Daycare***	***% Currently Using Daycare Services***
Kariobongi (n=30)	80% (n=24)	67% (n=20)	20% (n=6)
Kawangware (n=36)	69% (n=25)	28% (n=10)	14% (n=5)
***Kibera* (n=30)**	83% (n=25)	47% (n=14)	23% (n=7)
ALL SITES (n=96)	**77% (n=74)**	**46% (n=44)**	**19% (n=18)**

Daycare Utilization Frequency Across Sites (n=44)	
Once ever:	4% (n=2)
1 time/month:	14% (n=6)
1-3 times/week:	46 % (n=20)
4-6 times/week:	32% (n=14)
Varies:	4% (n=2)

Beyond daycare usage, the survey examined the satisfaction with existing daycare services. Kibera boasted a high satisfaction rate of 71%, hypothesized to be in result of a large donor base in which high quality services are subsidized. Contrastingly only 40% of caregivers who used services in Kariobangi and Kawangware had a positive experience. Reasons given for positive experiences were the provision of quality care (55%) and having more time to work (45%). Negative experiences were characterized by poor quality of child care (36%), poor supervision (27%), poor nutrition (18%), and unsanitary environments (14%). It is evident that caregivers had unsatisfied experiences in many cases, and they were predominantly associated with overall low quality child care and services. As there is a low current use of daycare in comparison to having ever used services, it is hypothesized that the poor quality of care played a role in decreasing its continued use. See Table 6 below.

TABLE 6: Daycare Satisfaction Among Lea Toto Caregivers in Kariobongi, Kawangware, and Kibera (n=96)			
Location	***% of Positive Daycare Experiences***	***Reasoning for Positive Experience Across Sites (n=22)***	***Reasoning for Negative Experience Across Sites (n=22)***
Kariobongi (n=20)	40% Positive (n=8)	*Provided quality care (55%)* *Provides time to work (45%)*	*Poor quality of child care (36%)* *Poor supervision (27%)* *Poor nutrition (18%)* *Unsanitary (14%)* *Expensive (5%)*
Kawangware (n=10)	40% Positive (n=4)		
Kibera (n=14)	71% Positive (n=10)		
ALL SITES (n=44)	**50% Positive (n=22)**		

When asked about the cost of daycare services used, diverse results were discovered across the informal settlement sites. It is vital to understand these differences, as various income, commodity prices, and international donors exist within each informal settlement. Therefore appropriate costs for services would be necessary to understand for each community. Overall Kariobangi reported the lowest cost for childcare services. Eighty-percent of respondents stated they pay 20 – 40 Kenya Shillings, which equates $0.25 to $0.50 daily. The remaining 20% from Kariobangi indicated they pay 41 – 60 Kenya Shillings per day. Kibera reported the second lowest cost for childcare, reporting 41 – 60 Kenya Shillings as the most common (64%) cost among respondents. Both Kariobangi and Kibera respondents reported no childcare services over 60 Kenya Shillings per day. Dissimilarly Kawangware reported higher costs of childcare services when compared to the other informal settlements. The majority of Kawangware respondents stated they pay 41 - 60 Kenya Shillings per day, with 10% stating they pay over 80 Kenya Shillings. Despite this, over 6% of respondents stated they would not be able to pay any amount.

The caregiver survey identified numerous childcare facilities throughout the three different informal settlements. Seventy-four respondents region wide stated they knew of daycare services within the community, with 48 stating the name was unknown. This was largely due to the informal nature of these services. Out of the 26 known childcare facilities in Kawangware, Kibera, and Kariobangi private individuals owned half, while a few were owned by churches and schools. The complete list of identified daycare services by informal settlement are presented in Table 7 on the following page.

TABLE 7: Daycare Facilities Identified by Lea Toto Caregivers in Kariobongi, Kawangware, and Kibera (n=26)

Daycare Location	***Sub-Location***	***Daycare Name *****	***Daycare Owner/Manager***
Kariobongi	**Baba Dogo**	Baraka Center	Private Individual
	Huruma	Bright Star	Private Individual
		St Teresa Church	Church
	Korogocho	Dayspring Church	Church
		Mama Susan Babycare	Private Individual
		Mtoto Mzuri	Private Individual
		Morningstar	Private Individual
	Kariobongi	Uzima Daycare	Private Individual
	Mathare	Glory Daycare	Private Individual
		Smile of a Child	Teacher
Kawangware	**Gatina**	Wonder	Mothers
	Kawangware	Mugwarm School	Teacher
		Merryland Children's Center	Community Health Worker
		Angels	Private Individual
	Riruta	Simon Daycare	Teacher
		Mbagathi Daycare	Medical staff
		Kisimo Education	Mothers
		Kwa Joy	Mothers
		Jagit School	Teacher
Kibera	**Kianda**	Glorious Daycare	Private Individual
	Sarang'ombe	Our Lady of Sisters of the Mission	Church
		Baraka	Private Individual
		Little Rock	School
		Lucky Daycare	Private Individual
		Flame of Hope	Private Individual
		Coplua	Private Individual

***** Most examined daycare facilities had unknown names (n=48/74).***

Caregiver Daycare Desires:

The final major theme covered within the caregiver survey is the outcomes associated with and specific desires surrounding access to childcare. Among all 96 respondents, 94% reported that access to childcare would assist in obtaining work. As this is the major driver in conducting the needs assessment, these findings were vital. Additionally stated as a benefit resulting from access to childcare is improving the capability of caregivers to carry out their household chores and responsibilities. Improving the psychosocial wellbeing (17% of respondents) of caregivers and aiding in their access to medical care (16%) were two additional outcomes helping mothers within this population. In terms of benefitting children, caregivers stated that improved access to childcare would provide better nutrition (15%) and education (9%), as well as improve children's safety (6%) and supervision (6%). Therefore it is evident that numerous benefits are associated with access for childcare services within the Kawangware, Kariobangi, and Kibera informal settlement communities.

From Figure 9 below it is clear that childcare access is a positive service for caregivers throughout Nairobi's informal settlements. However in comments made by surveyors, it was apparent that this benefit was largely associated with quality services. In order to inform the childcare facilities, the caregiver survey subsequently discussed the most trusted individuals to run and/or manage a childcare facility for their children. The most common response (41%) was a faith-based organization or church, followed by 40% of the respondents indicating community-based organizations. Both friends or family members and community health workers were indicated as trustworthy by 32% of respondents. Extremely minimal differences existed between

informal settlement sites. Interventions must use this information to create community-relevant and supported childcare services. See the detailed breakdown in Figure 7 below.

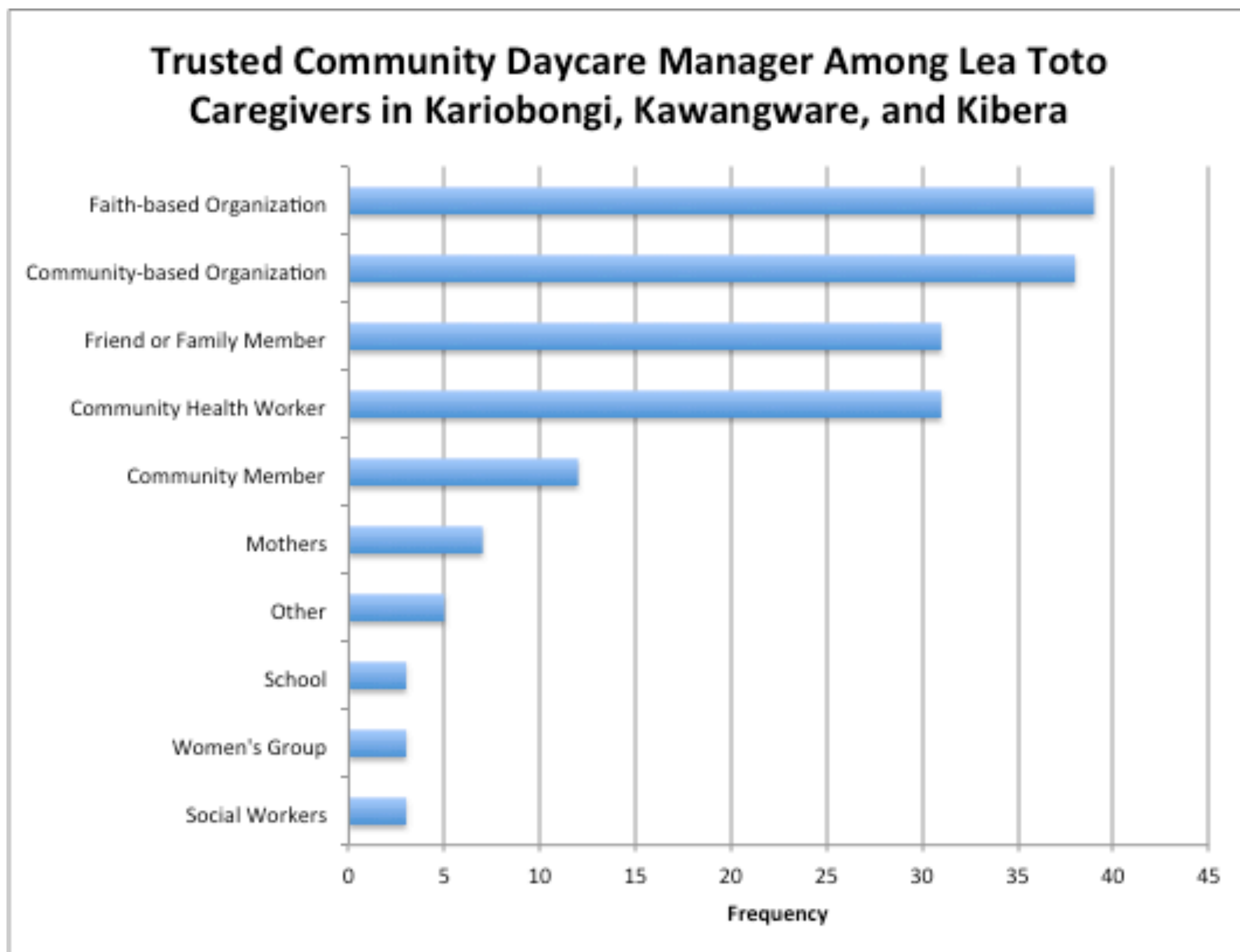

Figure 7: Most trusted community childcare manager

Again cost of services is a point of contention. Although there may be desire and need for childcare services, if the demand is absent due to an inability to pay for the services, programs will be ineffective. Therefore the survey gauged the appropriate costs of services for each individual community. Kariobangi expressed the lowest ability and/or willingness to pay for childcare. Only thirteen percent of respondents stated they could pay over 50 Kenya Shillings (equivalent to $0.62), compared to 44% of the Kawangware and 30% of Kibera respondents.

However no Kariobangi respondent stated a complete inability and/or willingness to pay for services, where as 8.3% of Kawangware and 3.3% of Kibera respondents indicated they were unable to pay anything for childcare.

4.4 FOCUS GROUP DISCUSSIONS

The focus groups discussions were conducted with both community health workers and social workers living and working in the informal settlements of Nairobi. Major themes became apparent through data analysis and are presented below. The major themes are: Need for Childcare, Quality of Childcare, Impact of Childcare (both lack of and access to), Childcare recommendations, and expected challenges and risks. The information obtained from this research will inform the program plan from a local and culturally competent perspective. The participants are knowledgeable and dedicated to serving their communities providing valuable feedback. Therefore the focus group discussion garnered information for programmatic development.

Childcare methods and access:

The methods used for childcare across all informal settlement sites reported by community health workers and social workers were fairly consistent, with limited variability. Most commonly stated, when caregivers have to work or otherwise leave the home, they leave them with neighbors, leave them home alone, or take them to daycare. Also reported was leaving them

with an older sibling, relative, or carrying them along. One community health worker in Kariobangi reported that some caregivers use house help.

Only the community health workers in Kawangware reported that caregivers within their community lacked access to childcare facilities. All other focus group discussions mentioned some form of childcare availability to caregivers. However while the childcare centers are reportedly available, all focus group discussions indicated that existing childcare was poor in quality, substantiating a need for the availability of quality services for their communities. See Table 8 below is a breakdown of childcare methods and access by site.

TABLE 8: Childcare methods and access in the Kawangware, Kariobangi, and Kibera informal settlements, identified through social worker and CHW focus group discussions.

TOPIC	SUB-TOPIC	LOCATION					
		Kawangware Social Workers	**Kawa CHWs**	**Kibera Social Workers**	**Kibera CHWs**	**Kariobangi CHWs**	**ALL**
Childcare methods used by caregivers	Leave them with their neighbors.	x		x	x	x	**4**
	Leave them home alone.	x	x	x	x		**4**
	Take the child to babycare/daycare	x	x	x	x	x	**5**
	Leave them with their older sibling.		x		x	x	**3**
	Leave them with relatives.	x			x	x	**3**
	Carry them along.			x	x	x	**3**
	Use house help.					x	**1**
Current Access to Childcare	Lacking local childcare facilities.		x				**1**
	Numerous childcare facilities available.	x		x	x	x	**4**
	Poor quality of available childcare.	x	x	x	x	x	**5**
	Need for quality childcare options.	x	x	x	x	x	**5**
	Cost is too high.	x		x			**2**

Need for Childcare:

Overall the community health workers and social workers identified need for childcare services within their communities. This need varied across informal settlements as each site has diverse amounts of childcare services, quality of services, and demand for childcare. Below is a breakdown of identified need by site.

Kawangware: Both the social workers and community health workers stated that childcare services do exist within Kawangware, however the cost of such services serves as a barrier to access. One Kawangware social worker stated, "In Gatina there are several being used by those that are able to pay for them. But most of our caregivers cannot afford them." The social workers specifically identified their clients as a population that is unable to access childcare due to high cost. As they serve one of the most vulnerable groups in Nairobi, HIV positive children and mothers, this raises concern as the program would aim to provide care for this population. As such the social workers and community health workers identified the need to provide subsidized services to this population.

Additionally identified as an issue in Kawangware is the need for a modern facility that addresses multiple aspects of child health and development. Participants identified that most childcare lacked any support for the needs of children, beyond providing safe space, and that this was a direction that must be taken. As one community health worker stated, "It would be good to have; we need a new modern facility."

Finally focus group discussions highlighted that services available within Kawangware are specifically targeting the three to five years age range, ignoring the zero to three cohorts. As such the focus group discussion participants stated there was a particular need to focus on this age group for services. Within the community health workers focus group discussion, one participant stated, “We need a program that will provide for the younger ones, the children under three years.”

Kibera: Kibera presented similar results when compared to Kawangware. Participants emphasized that there is a need for women to access childcare facilities, but Lea Toto clients in particular are unable to afford quality services. One Kibera social worker stated that, “Kibera Lea Toto clients do not have access to good daycare services because they have low resources and they can’t pay to use the good services." Another social worker confirmed that, “Caregivers would wish to have quality services, but they cannot afford it." These statements highlight the lack of affordability of quality childcare in the Kibera slum settlement.

Additionally comparable to Kawangware, Kibera focus group discussions highlighted the need for quality childcare services. Participants stated that there are current services available, however they are poor quality, emphasizing the need to provide affordable quality services. A Kibera community health worker passionately specified that, "There is a huge need for a center that provides good care for the children." Confirming this statement were both community health workers and social workers who identified the informal and unregistered nature of existing facilities. In result participants emphasized how this limits quality as there is no accountability

for the services provided, and stated this means most facilities do not follow the standards for childcare within Kenya. Below are relevant quotes from the participants:

"They are there, but most are just within houses." Community Health Worker

"The daycares are not registered, they are just informal." Community Health Worker

"Caregivers do not look for quality here when dropping off their kids; they are looking for a cheaper place where they don't have to spend very much money." Social Worker

Kariobangi: Following the ideas presented within the Kawangware and Kibera focus group discussions, Kariobangi community health workers identified need for quality childcare within their community. CHWs discussed the presence of childcare facilities, identifying enough services, but a complete lack of quality centers. One CHW stated, "There are enough, but not nearly enough with good care. They are not giving medicine, there is poor drug adherence." This was supported by numerous CHWs adamantly stating there were no quality services available, and "…definitely an unmet need in terms of quality childcare," as one Kariobangi community health worker states.

Unique to Kariobangi was the emphasis on the need for childcare due to a lack of social networks amongst the caregivers within the community. As one CHW detailed, "Neighbors are not often willing to support families within this community. Most people are new migrants and they don't have a support system." This was a concern supported by the entire cohort of fifteen

CHWs. As women migrate to the informal settlements, they are losing these traditional social networks that facilitate child rearing, stated as a major challenge amongst Kariobangi CHWs. In result children are not provided quality and loving care from families, a new challenge to mothers in Nairobi. Due to constant migrating, they do not develop strong ties to neighbors, limiting their shared childcare responsibilities, an issue the local CHWs stressed as a dire crises inhibiting their economic development. Participants highlighted the only existing facilities as, “run outside of someone’s home." However when this is coupled with a non-trusting community, there are limited childcare options for women looking for trusted and quality care.

More need: Despite differences, across all informal settlement sites the social workers and community health workers identified populations that may have heightened need for childcare services. These populations are grandmothers, families caring for orphaned children, caregivers with many young children, children without secondary caregivers, and younger women. Due to their increased need, participants stated they should be targeted first for childcare, as well be provided with subsidized services when needed.

Poor Quality of Existing Childcare:

Throughout the analysis, it became apparent that there was some form of childcare available to women and their children living in the informal settlements of Nairobi. The overall quality of these services was identified as poor, and wrought with challenges for mothers and their children. The participants expressed specifically how the quality of existing services was low, and discussed what aspects contributed to the poor quality of care. Overall there were a number

of similarities, including the risk of child abuse when children are left with their neighbors, poor nutrition, overcrowding, and overall inadequate standards for care provision.

Kawangware: Repeatedly stated within Kawangware was the lack of standards for childcare services. A Kawangware social worker passionately declared that “the facilities are not up to standards. They are often just a room turned into a daycare and sanitation is not good." Both social workers and community health workers agreed with this sentiment, stating this quality of care was detrimental to the health and development outcomes of attending children. Participants indicated that these facilities are characterized by inadequate supervision, with numerous children in one room with only one care provider. Therefore social workers identified the lack of individualized care for attending children. Additionally Kawangware participants recognized poor nutrition as a challenge to the quality of childcare provisions. As one social worker stated, "Some provide lunch, but the quality is not up to standards and is usually just uji.” Uji consists of water and flour, with very limited nutrition value. The same social worker continued in stating “Some also just bring a packed lunch."

Kibera: Kibera social workers and community health workers extensively discussed poor childcare quality. The specific major issues identified within existing childcare facilities were similar to Kawangware. Presented were overcrowding, limited supervision, and poor nutrition. One Kibera community health worker claimed that, "Owners of the daycare do not usually give good child care. Many children will be crying and unattended to, there are just too many children." This was followed up by another community health worker with, “Daycares often have one lady caring for 20 children. They are just sitting all day. They are wet, some don’t any

food, and there is much crying. They have bad conditions." The conditions of currently existing facilities were consistently referred to as poor and detrimental to the children. Social workers within Kibera further support this idea stating that. "Caregivers pay very little and those running cannot employ many people so there are many children." Due to low childcare fees, the existing facilities have limited resources, resulting in poor quality of care.

Kariobangi: Community health workers in Kariobangi stressed the poor quality of existing childcare facilities. Discussing the overall quality of existing childcare, one CHW stated, "When caregivers leave children in baby care, they are not given good care, especially those whom are HIV positive. The children are not taken care of properly." Paralleling themes were identified in Kariobangi, when compared to Kawangware and Kibera. Heavily emphasized though was the lack of nutrition within childcare. One CHW even stated that "Baby care centers are not all good, most actually contribute to child malnutrition." Numerous community health workers identified this as a major challenge within existing facilities, and stressed the need for immediate intervention.

Additionally CHWs agreed that there was poor supervision at the childcare facilities. One CHW stated that "There is not enough staff. One person will be in charge of everything at the facility." They called for the need to have multiple staff addressing different aspects within the childcare facilities. Further, in identifying why there was poor supervision, one CHW emphasized that "The daycare facilities are after your money, they do not mind to the number of children." As such the childcare facility owners recruit many families to attend because “As more children come in, they make more money.”

Kariobangi CHWs built upon these challenges, identifying the poor health outcomes related to the childcare facilities. In result of poor staff to child ratios and limited resources, CHWs stated that children's needs are not properly attended to, negatively impacting their health. For example one community health worker spoke from personal experience stating that "Very frequently there is no diaper changing, and the children get bad nappy rashes." They stated that when children are ill, no response is provided and they accept the child to bring in more funds. Most alarming as a consequence of poor quality of childcare was the use of sleeping pills for children. Community health workers stated that as facilities accept many children for few staff, they are often overwhelmed and in response force them to sleep so they require less supervision. One participant stated, with support from the entire group, that "When caregivers leave their children at a daycare center they are often given pillotin to sleep." This issue was not found in Kibera or Kawangware. Below are additional relevant quotes from participants:

"Feeding is poor and medication is not given at the proper time." CHW

"Children are simply not taken care of at these facilities." CHW

"Sometimes the owners tell you they gave the child their medication, but will really just throw the pills away. This is especially common for the HIV positive children." CHW

Impact of Childcare Services:

Across all three informal settlements, community health workers and social workers discussed the negative outcomes in result of lacking adequate access to childcare. The specific sub-populations that are most affected by limited childcare services are the child, siblings, mothers (and other primary caregivers), and family-wide livelihoods. Little variation existed across groups, indicating the local impact as similar within diverse informal settlement communities.

Consistently identified as a consequence of no access to childcare services was child abuse and mistreatment. Focus group discussion participants stated that when no childcare is available, either children are left with neighbors or siblings, or are left alone. When children are left with neighbors, there is the opportunity for abuse, mistreatment, and even rape as stated by the community health workers. Dangerous outcomes for children left alone were identified to result from neglect, poor nutrition, and an inability of children to take care of themselves. Kariobangi CHWs emphasized the negative impact of existing childcare services on nutrition. Speaking from personal experience, one CHW stated, “I took my baby and they tell you that they are giving the children food, but they do not. My daughter got malnourished after spending some weeks at the center. So I went to visit unexpectedly and found out the food I was leaving was being given cold, and shared amongst a number of children.” The consequences on nutrition were particularly highlighted in Kariobangi when compared to Kawangware and Kibera.

Children’s older siblings are also reportedly withheld from school to provide childcare for siblings. For example a Kawangware CHW presented community-based experiences with this issue stating, "I have a caregiver that always goes far. Recently for three days a child was left

with a 10-year-old boy, who then can't go to school. This child is then not getting proper education." Additionally a Kawangware CHW provided Michael Ngereso as a case of the potential consequences for sibling-based childcare. "There was the case of Michael Ngereso who was left to care for his baby sister and he smothered the baby to death by covering her with many blankets." Community health workers in Kariobangi stated this was not common.

As presented by the focus group discussions participants, maternal employment is impaired when there is little or no access to childcare services (formal and informal). In result the livelihoods of entire families are negatively impacted. When women have a child under five years of age, they must provide care to the child and therefore without adequate childcare, they have a reduced capacity to work. Both Kawangware and Kibera participants noted the dependency this creates for families as they become reliant on local charitable organizations due to their inability to provide the basic needs for their families. Kariobangi did not address the issue of dependency, but confirmed the idea that when women lack childcare their employment is inhibited challenging the food security of entire families. See relevant quotes from all three informal settlements regarding the impact on each specific sub-population in Table 9 on the following page.

TABLE 9: Focus group discussion direct quotes from community health workers and social workers regarding the negative impact of poor access to childcare			
	KAWANGWARE	**KIBERA**	**KARIOBONGI**
Child	"The child can be abused by their neighbors and they do not get a proper meal." CHW	"There is the risk of the child being left alone. The child can be raped, burnt, eat poison. Young children cannot take care of themselves." CHW	"There are issues with mistreatment and rape when children are left with neighbors." CHW
Siblings	"In the community girls are overloaded by work within the home." CHW	"Mothers will have older siblings drop out of school and care for younger ones." Social Worker	"Some older siblings are pulled out of school to care for younger children, but this is not common." CHW
Maternal Employment	"Children being at home reduces the productivity of caregivers and then they need to come to Lea Toto for more assistance." Social Worker	"They are often rejected from jobs, especially formal ones, because they are carrying their child with them." Social Worker	"Caregivers often leave their jobs completely until the child is in school." CHW
Livelihoods	"Leads to caregiver's dependence on charities." Social Worker	"It brings dependency to the whole family because the mother has to care for the child and cannot work to support the family." CHW	"There is a challenge with provisions, there is not always enough food for all." CHW

To understand the holistic role of childcare within the informal settlements, the focus group discussions also examined the impact of having good access to childcare services. Across all sites, the positive impact was also identified for children, siblings, mothers, families' livelihoods, in addition to health and nutrition. Both Kawangware and Kariobangi participants stated that childcare would reduce abuse and increase child safety. Child health and nutrition were reported as aspects that improve when provided with quality childcare. Through childcare participants asserted children can be provided good medication adherence (particularly for HIV positive children) and provide basic medical services for attending children. Statements that nutrition can improve with the use of childcare services followed the health impact discussion. All three sites stated that childcare facilities could provide nutritious foods to reduce and prevent malnutrition.

Additionally Kawangware and Kibera reported improved school enrollment for older siblings in response to their decreased childcare burden. This was coupled with statements that maternal employment would improve, as childcare opportunities would offer more time to work. As stated previously, this would result in improved household livelihoods and reduce poverty through increased income generating activities for mothers. See relevant quotes from all three informal settlements regarding the impact on each specific sub-population below in Table 10.

TABLE 10: Focus group discussion quotes from community health workers and social workers regarding the benefits of access to childcare services

	KAWANGWARE	**KIBERA**	**KARIOBONGI**
Child	"It will reduce child abuse in the community." CHW	N/A	"The facility would improve child safety. Current facilities are risky, and this place could ensure security." CHW
Sibling	"The daycare will be used instead of leaving the child at home with other siblings, this will help the sibling to be free and taken to school." CHW	"Older siblings can go to school and not be babysitters." CHW	N/A
Mother / caregiver	"Daycare would allow independence for caregivers because they could work." Social Worker	"It is very necessary to have childcare services, because without access to it they can't obtain jobs." Social Worker	"We will empower mothers to be able to do work and not just sit." CHW
Livelihoods	"It will reduce poverty." CHW	"The economic situation of the family will be improved." Social Worker	N/A
Health	"There could be better adherence for HIV positive children." Social Worker	"Could provide good medical care for the children." CHW	"The daycare will help because medical care will improve because drug uptake will improve." CHW
Nutrition	"It could also improve the health of children by providing lunch." Social Worker	"It could also improve the health of children by providing lunch and better drug adherence." Social Workers	Diet will improve, because currently their diet is not balanced. The majority of these facilities do not cook, the children are only given uji. Anything else needs to be brought by the caregiver and it is often shared amongst many children." CHW

Childcare Suggestions:

Recommended basic requirements and services: Focus group discussion participants were asked to discuss their ideas and suggestions for the design and implementation of childcare facilities. This included the basic requirements for a childcare facility, as well as the specific services that should be incorporated into the childcare facility. Below is a list of the recommended requirements:

- Must be registered with local and national government
- Community mobilization to create demand
- Quality supervision
- Safe and secure location and care
- Health and basic medical care
- Drug adherence support
- Offer nutritious food to attending children
- Early childhood education activities
- Employment support for women using childcare: *"There should be a component to support employment for the women who use the daycare. For example, in the daycare space there can be a community garden." Kibera Social Worker*

Manager: The focus group discussions assessed who should manage childcare centers to be implemented. Below is a list of the recommended persons.

- Community health workers (6 - see FGD quotes in relation to CHWs as childcare managers)
- Lea Toto caregiver (3)

- Lea Toto organization (2)
- Self-help group of women
- Experienced childcare professional
- Someone trained and experienced in childrearing

TABLE 11: Focus group discussion quotes from community health workers and social workers regarding CHWs serving as childcare center staff

KAWANGWARE	KIBERA	KARIOBANGI
"The community knows them which is the most important factor for caregivers to trust them." Social worker	"Cannot leave CHWs to run the whole thing literate people need to run the whole thing it will work." Social Workers	“CHWs are not employed and this could offer them a good opportunity.” CHW "CHWs would be a good asset because they know the HIV status of community children already and know how to care for these high need children." CHW

Payment and cost: As one community health worker from Kawangware stated, “If the goal is to empower women, they must pay, otherwise they will not be empowered at all." Therefore it is essential to charge mothers for the services, but as emphasized by the focus group discussion participants, they must be affordable. Across all sites, participants stated that the cost of childcare would depend on the services provided, i.e. with the provision of health and nutrition support, the cost would increase. They also stated that the fees should begin low, and then increase after caregivers see the quality of services provided. Kawangware and Kibera discussions elucidated the idea to charge Lea Toto clients, i.e. HIV positive children, a lower fee to encourage enrollment of this vulnerable population. Kariobangi community health workers disagreed, stating this would cause conflict within the community. Table 12 displays the breakdown the cost as recommended by social workers and CHWs in each site.

TABLE 12: Focus group discussion cost for services recommendations from community health workers and social workers		
KAWANGWARE	**KIBERA**	**KARIOBANGI**
Lea Toto clients pay 50 ksh per day for care only, then increase to 100 ksh per day with the provision of food. Community members pay 100 – 250 ksh per day.	20 ksh per day for care only. 50 ksh with the provision of food.	30 ksh Kariobangi per day for care only. 50 ksh with the provision of food.

Training: Through focus group discussions it was recommended that all staff of the childcare facility receive extensive training to prepare them for effective childcare support. Suggested training topics across the informal settlement sites are as follows:

- Management training
- Business development
- Childcare strategies
- Special needs children
- Early childhood education
- Nutrition and feeding training
- Under-five child health training
- Nursing skills
- Community social work

Sustainability: Social workers identified the need for childcare services to be sustainable and not reliant on outside donations. As a social worker from Kibera stated, "There are so many ways to

get money, first we can fundraise with Lea Toto, and then we can undertake our own projects to keep funds coming in." Therefore discussion participants offered solutions on how to achieve this, namely through the provision of income generating activities. Suggested income generating activities from Kibera are as follows:

- Community garden for market selling
- Poultry rearing to sell eggs and chicken meat

Childcare Challenges and Risks:

Throughout the focus group discussions numerous challenges and risks were presented and discussed. These issues must be understood prior to program implementation in order to guide risk management protocol. The major challenges identified were cost, child abandonment, lack of employment opportunities, in addition to child health and nutrition.

Cost: In terms of cost, the focus group discussion participants repeatedly stated that Lea Toto clients would not be able to afford high quality childcare services without subsidized fees. As one Kawangware community health worker stated, "We will need to reduce the charges, because nobody doesn’t want it, but demand will be based on cost. We can’t have high charges." This concept was reaffirmed in Kibera and Kariobangi. A Kibera social worker stated that "Resources will be the biggest challenge." This was followed by community health workers warning that there might be payment challenges. “I worry that caregivers may not pay in time,” declared by a Kibera-based CHW, “so we will have to tell people to pay up front." Kariobangi CHWs agreed, stating that caregivers must “Pay before they leave the child behind.”

Additionally participants noted the challenge of start-up capital, with a Kariobangi CHW stating that "You can't start a business without any capital." The participants made it clear there would be a need for donations in order to launch the program. Further there was concern regarding keeping up with operational costs when running. CHWs stated that the amount of money made in one day, would likely be less than the childcare fees would bring in. Therefore there would be a funding deficit. A social worker from Kibera indicated that "The successful ones have donors that fund them, they are not owned by individuals." In response Kibera social workers noted that if there were the aim to become sustainable, then the fees would need to be higher. Unfortunately emphasized in parallel was that with a rise in the price of services, caregivers will simply choose another lower quality option.

Abandonment: All three sites mentioned the possibility of children being abandoned at the childcare center. According to participants when mothers are overwhelmed, they look for opportunities to escape the challenge of parenting. A social worker from Kawangware asked the group, "What if a mother just puts their child in the daycare, and they leave and don't come back?" In response the participants discussed potential solutions. A Kibera social worker suggested that, "Some children will be abandoned, so we need to make sure we know where they stay and have multiple contacts. We must open files for each child and have a contract for them." This was confirmed by a CHW in Kariobangi who recommended that, "The caregivers provide a photocopy of their ID because some will leave their babies behind."

Employment: A major concern emphasized most prominently by social workers from Kibera, is the potential of mothers not finding employment despite having childcare available. Initially a

social worker from Kibera stated, "How do we ensure that the caregivers go to work? Jobs are often unavailable so we need to also make sure that jobs are available." In response another social worker identified the possible solution of providing an economic empowerment initiative along with the childcare services: "We can network with other organizations to find jobs, IGAs and micro-finance opportunities."

Health and Nutrition: Various health and nutrition concerns were examined throughout the focus group discussions. The most frequently identified risk in this sector is the spread of illness. One CHW from Kibera stated that, “Once the center is open, there are so many children that come and they spread illness. Then the caregivers will blame the center for illness.” This was confirmed in Kariobangi from a CHW who highlighted that “If people bring sick children there will be issues.” Therefore they concluded that there must be a system to ensure attending children are not sick, and those that arrive sick or become sick at the childcare center are referred to local clinics for care.

Another concern discussed regarding the health of children is concerning the psychological and emotional outcomes related to childcare. This concept was elucidated by a CHW from Kibera who stated that, "When you take a child to the daycare though, there is a lack of parental love that is needed for the child. They don’t get that at daycare." Therefore respondents emphasized the need to have quality, loving, and individualized care for attending children.

Additionally, there was expressed concern over nutrition. Both Kibera and Kariobangi based community health workers stated that if there is not food provided at the childcare facility, that

there would be challenges in getting people to use the services, and this would contribute to malnutrition in the community. Therefore a CHW from Kibera demanded that, “If people have to come with food, most will not come at all then, so we need to have food.”

4.5 COMPETITOR ANALYSIS

Community health workers in the Kawangware informal settlement conducted a competitor analysis of childcare services within the region. This methodology was employed to gauge what services existed, what activities were used, cost of care, and the organizational structure of current programs. The aim of the competitor analysis was to ensure true need existed within the community, and avoid duplicative efforts. Therefore community health workers distributed throughout the Kawangware informal settlement to identify childcare services. Overall 23 centers were identified, all with varying costs, ages served, and much more. The distribution within Kawangware sub-locations showed nearly 50% of the childcare centers located in the Kawangware sub-location, and only 25% in both Gatina and Riruta. Only 26% of the childcare centers surveyed were registered with the local government, indicating a high prevalence of informal childcare services.

Poor quality of services and limited resource were identified. The competitor analysis found that 21.7% (n=5) of the childcare facilities do not provide lunch. Among facilities that do provide lunch, 22.2% (n=4) only provide uji. Additionally 60.8% (n=14) of the childcare centers do not provide snacks to attending children. Of those that provide a snack, 55.5% (n=5), serve mandazi (deep fried dough) or uji. Additional services provided at the childcare centers were captured,

including health services and education, however results were limited. Only 13% (n=3) of the childcare facilities provide basic medical care. Contrastingly 52.2% (n=4) provide early childhood education activities for attending children, however this was only amongst programs within schools.

In terms of childcare logistics, the competitor analysis garnered vital information regarding child to staff ratios, cost, and managing institutions. This competitor analysis found that 65.3% (n=15) of the childcare facilities do not adhere to appropriate staff to child ratios. Despite that 52.2% (n=12) charge a seemingly local high-rate of 50 Kenyan shillings per day for daycare. Two centers charged 70 Kenyan shillings per day, depending on the child's age. Children under the age of three are generally required to pay more. Further one center charged 80 Kenyan shillings per day. Private individuals and schools, both representing 39.1% of the total, were the most common program managers. Churches manage an additional 13% (n=3) and 8.8% (n=2) by community-based organizations. Find the comprehensive table on existing childcare programs in the Kawangware informal settlement in the Appendices (Appendix I).

4.6 DATA SYNTHESIS

Both the caregiver surveys and focus group discussions elucidated the need for access to quality childcare services. Results show that lacking access to such services serves as a barrier to maternal employment. Stated in both assessment tools, respondents indicated that the impact of having a child under the age of five was a significant barrier to employment. Therefore when asked how childcare would benefit caregivers, survey and focus group discussion participants

stated they would be able to become independent and support the livelihoods of their families. Overall it was emphasized that they would become less dependent on Lea Toto services.

Additionally both assessments pointed to the poor quality of existing services, which were indicated as only serving the ages of three to five year olds. Caregivers stated that the quality of care was poor, with limited nutrition, inadequate supervision, and lacking basic services needed for their children. This resulted in a very negative experience overall for daycare utilization. Community health workers and social workers throughout the focus group discussions confirmed this occurrence, stating that the childcare facilities in place are overcrowded with limited staffing, either no or poor nutrition, with no staff training. Both mentioned that these services are simply out to get money and will take as many children as possible. These findings were confirmed throughout the competitor analysis, which displayed a lack of registration of facilities, poor staff to child ratios, and inadequate nutritional support. Overall there was a lack of child-centered services within the existing facilities.

Highlighted more within the focus group discussions was the impact on older siblings within the household. This issue was stated a few times by caregivers, but emphasized by the focus group discussions. Additionally different was the focus of social workers and community health workers on the benefits of childcare service implementation. Caregiver survey respondents focused on the impact for obtaining employment, however the benefits to children were not apparent. IN focus group discussions the respondents stated childcare services could also provide nutrition, basic health care, and early childhood education to bolster child development outcomes.

CHAPTER FIVE: PROGRAM ANALYSIS AND PLAN

5.1 PROGRAM ANALYSIS

Overview:

This section provides the framework for the proposed program, identifying the key intervention areas. The target population for childhood development programs is presented, identifying the critical window for vulnerable child support. This section also examines recommended program frameworks from CARE, UNICEF, WHO and others. This will highlight the most important broad intervention areas that will be tailored to the proposed program. Additionally provided is an evaluation of programs currently in operation, their objectives, services and relative success. The information obtained from the program model analysis will inform the strategic plan for the proposed program.

Targeting young children:

A child's first four years boast the fastest period of brain growth. Therefore this stage creates a vulnerable time period where children are most susceptible and affected by illness, malnutrition, stress, lack of nurturing, and poor brain stimulation [25, 71, 115]. According to extensive research, young children (under five years) receive more positive impact through child support programs. Within this age group, the 0-36 months timeframe is referred to as the "critical window" of development vulnerabilities, but also profound opportunities [21, 115]. These opportunities have lasting impacts on children as they enter primary school, secondary school,

and eventually adulthood. Therefore intervening during this time period provides life-long results [21, 22, 25, 71, 98, 115-117].

Holistic care:

It is undeniable that there are complex interconnections between child health, nutrition and development. In targeting only one of these aspects, the opportunity for synergistic interventions promoting holistic child health is lost [25, 71]. Achieving children's optimum development requires the basic needs of safety, nutrition, and health throughout their earliest years. However these basic requirements do not meet all of young children's needs, this must be accompanied by affection and nurturing care, in addition to informal and formal interactions [25, 71]. As children's survival, growth, and development are mutually reinforcing, it is essential that community health services incorporate each of these aspects into an early child service program [21, 22, 25, 115].

5 x 5 model:

CARE, USAID, UNICEF, the World Bank, and other international organizations have initiated early childhood development programs for vulnerable children. These agencies have formally acknowledged the need to use an approach that expands beyond the standard model that targets 1-2 intervention areas (i.e. nutrition and education) [115]. In response each of these agencies has expanded to provide holistic care, including child safety and protection, health, nutrition, and education. In response CARE with the support of other international agencies has developed the 5 x 5 orphan and vulnerable children programmatic support model [22, 115]. The five

intervention areas are: nutrition, child development, child rights and protection, health, and economic strengthening. More detail regarding each area of intervention is listed below:

- *Nutrition:* From zero to eight years, children's caloric and protein intake impacts their future cognitive functioning. Additionally within this timeframe, micronutrients play an essential role, particularly iodine and iron. Iodine and iron deficiencies have been associated as the leading cause of poor child developmental outcomes for young children in the developing world [7, 55, 81, 85, 86]. Throughout the birth to three years timeframe is when children are most vulnerable to permanent stunting effects and poor cognitive outcomes attributable to malnutrition [22, 55, 56, 75, 98, 115, 118]. However while there is immense vulnerability at this time, there are nutrition support opportunities to provide long-lasting benefits. Studies display that even through childhood and adolescence, the impact of good early nutrition on scholastic performance is evident [18, 53, 56, 81, 83, 118]. Therefore CARE's recommendation is that early childhood centers should provide at least one nutritious meal to every child, in addition to micronutrient support for malnourished children [115].

- *Child Development:* Early childhood development interventions have been shown to promote physical, social, and cognitive development at a vital time for life-long success. Longitudinal studies report that early childhood education and activities starting at six-months have a positive on primary school enrollment and completion, as well as a lasting impact that improves the rate of secondary school achievement. Research has found that similarly important as nutrition, socio-emotional stimulation is vital to children's physical

development [21, 22, 71, 78, 96, 115]. In particular early childhood development services have the greatest impact on children from the poorest households. Therefore the 5 x 5 model recommends incorporating an early childhood development curriculum into childcare settings, as well as training caregivers for home-based activities [115]. Activities will be developed to address the social and cognitive functioning of attending children. These activities should be targeted to the specific age group and tailored to the local context.

- *Child Rights and Protection:* Poor early childhood growth is not attributed to poor nutrition alone, but also a child's immediate surroundings. Recently addressed as an essential aspect of healthy child development is the rights and protection of children [7]. Research has shown the significant effects of stress, abuse, grief and violence on young children, with negative impacts occurring throughout a child's lifetime [115]. Neglected infants and young children (< 3 years) have a lower ability to process nutrients, and have poorer outcomes associated with health, academic learning, self-confidence, in addition to other physical and cognitive functioning [21, 119]. As such it is vital to provide safe space for children to play and learn where they feel safe, nurtured, and stress-free [7]. Environments should reflect this principle, and security must be high.

- *Health:* For young children diarrhea, anemia, respiratory infections, malaria, and malnutrition threaten their survival [7]. In optimizing children's health, families require infection prevention (e.g. safe water and sanitation), health care access, immunizations, and basic medical care provisions (e.g. de-worming, first-aid, infection control) [56, 75,

84, 115]. Within urban regions there are numerous centers that either provide free or subsidized health services, however much of the population is unaware of how to access such care. Furthermore after immunization, children often lack consistent interactions with healthcare providers. As infections go untreated, such as eye, ear, and parasitic infections, which can inhibit healthy child development [115]. As such CARE's 5 x 5 model recommends addressing these issues through linkages to health centers, providing space for clinic outreach programs (both educational and service-based), and verifying immunizations records of all attending children [84]. Within this structure a referral system must be emplaced to ensure child health follow-up. Furthermore the provision of safe water treatment and storage vessels is essential in reducing the incidence of waterborne diseases, as well as dehydration.

- *Economic Strengthening:* Economic strengthening interventions are displayed as vital to childcare programs. Without supporting the home to become self-sufficient, efforts made at the child level will have limited impact. Maternal employment is vital to develop flourishing livelihoods for families, and opportunities for women's employment in the developing world is often limited. Therefore CARE recommends the development of community savings and loan group programs to facilitate business ideas and development. Another option is the provision of income-generating activity groups that provide training, and business opportunities within a group setting [115]. Skills such as managing a business, financing, and marketing are taught through community education seminars for mothers. Profits from small businesses allow households to build the income needed to meet their basic needs. In result children accumulate positive physical and

emotional wellbeing growth as more funds are provided for nutrition, health, and education. CARE's programs within this arena have been very successful in sub-Saharan Africa [115].

In addition to the holistic nature of services through the 5 x 5 model, the framework recommends that programs target different levels of society to impact change. Beginning at the child level, this model expands to support the family and community, as well as eventually influence national policies [115]. Family support has been identified as an essential component of addressing children's needs. Without providing support to empower a healthy family structure, home-based daily care may be inadequate, as well as lack a lasting impact as improved care would discontinue after service utilization. There is also need to engage the community to enable locally relevant change, and to increase the odds of sustainability. Ultimately reaching the policy level is key to create broad-based change on a governmental and national level. CARE states that the combination of these aspects that positive change for vulnerable children is most effective [115].

CARE, UNICEF, the World Bank, and USAID state this methodology is cost effective, sustainable, and efficient in improving children's health [7, 22, 92, 115]. The model has been adapted to numerous settings from rural to urban, and across cultural settings. The 5 x 5 model allows for an innovative community-centered and owned approach to empowering children in their most vulnerable years. Addressing all aspects related to children's health, and targeting many societal levels results in a comprehensive program that could have an immense impact on children for years to come.

5.2 PROGRAM MODEL EVALUATION

Overview:

In developing a framework for the proposed program, the program model analysis followed CARE's 5 x 5 programmatic model. All programs examined provide care to children under the age of five, offering services from various avenues and societal levels. Community-based program models were chosen for this analysis, as this will be the model of the proposed program in Kenya. Programs were analyzed using evaluation documents developed by the World Bank, USAID, CARE, UNICEF, and the International Food Policy Research Institute. These agencies conducted ongoing monitoring, impact evaluations, and satisfaction assessments. The results were used to compile the key aspects of various program models, their objective, services, impact, and challenges. This information was assessed to influence the proposed program. See the program model evaluation tables in the Appendices (Appendix II), which provides a summary of childcare programs throughout the developing world, with sub-Saharan Africa highlighted.

Across all of the eighteen specific programs examined, thirteen displayed positive impacts across a spectrum of health factors. The most beneficial programs are among the holistic childcare focus area, as they target multiple aspects of child health and development. These services offered at a minimum nutrition support, health services, and early childhood education activities, such as the Mauritius Export-Processing Zone Daycares. This childcare is run by non-governmental organizations providing daycare, health services, and nutrition. Health services provided were growth monitoring, de-worming, infection and illness monitoring, immunizations, and vitamin A supplementation. Nutritious meals were provided, and weight monitoring was

included in the nutrition package. The childcare caregivers were also trained in early childhood education, and provided school readiness activities [105]. Similarly the Multi-Purpose Centres Project provides holistic care to children, through health, nutrition, and early childhood education [71]. Other programs in rural Zimbabwe and India offer nutrition support through healthy meals and micronutrient supplementation [71, 95]. In result they have seen a decrease in malnutrition amongst children attending their centers.

Some childcare options are simply that: child care. Without additional services, they provide supervision and care for children while their mothers work. This has been seen in Ghana, Guatemala, Colombia, and Senegal. While the outcomes incited positive effects on maternal employment, and household livelihoods in response, no impact on children's health, nutrition, or school readiness was seen. What is unique about the programs only offering childcare, is the community-driven nature of these agencies. Each program held a nomination or recommendation process to determine who would provide the care. These community members were often women, and fellow mothers who did not have training in childcare or health. Each program evaluation determined that while the program was successful in achieving its ultimate goal of enabling caregivers to find employment, they could have easily incorporated other services that would contribute to the overall health and development of children [13, 14, 93, 105].

Further, a number of organizations and communities worldwide have begun providing early childhood education within the community. These centers have a focus on pre-school and prepare children for primary school. Kenya for example has a national early childhood education program to engage children in pre-school [91]. Additionally programs from Nigeria, Botswana,

Angola, and Muslim-based schools worldwide have implemented such services. Teachers are trained in early childhood development, and locally relevant curriculum is developed for the children [71]. Activities include puzzles, drawing, singing, dancing, language development, and targeted early learning activities. Often these services were combined with parent training and skill-building for early childhood development. Most of the programs, for example Little Teachers in Botswana, stated that there were increases in the ability of young students to communicate and socialize with others, as well as displayed an overall higher preparedness for primary school [71]. However lacking from all early childhood education projects is services targeting the health and nutrition of children.

Lastly were community-based outreach care systems for children. As the 5 x 5 model recommends, home-based and family-focused engagement is essential for child health and development [115]. Therefore the programmatic analysis has included programs with this mission. Such program evaluations came from Myanmar, Burkina Faso, and Malawi [71, 105]. For example the Mothers' Circles program in Myanmar offers urban caregivers nutrition, health, and development training and support. This program specifically targeted children under the age of three years, a rare target population throughout all child support services. Mothers' Circles provided health and nutrition services, in addition to parental training and skill building. They found in result that all children's health status, nutrition, and cognitive functioning were superior to counterparts not receiving services from the same communities [105]. While family-based positive change is potentially amassed from this model, there is a lack of direct child care services averting maternal employment.

Moving Forward:

The most pressing challenge to child care programs is the lack of available funding and resources. The most community-driven projects (i.e. those without outside funding), were providing childcare only. With the addition of more services, comes increased cost and when impoverished families are targeted, high programmatic cost would serve as an immense barrier. Across all programs there was a clear challenge in reaching the poorest populations in the absence of external funding [14, 71, 115, 120]. Subsequently there was a small-scale reach of the programs. Programs that offer the addition of health and nutrition care, were funded by international agencies or NGOs. The Chittagong Hill Tract Para Centres in Bangladesh for example had full funding from UNICEF and the World Food Program. This program served the most children reaching 44,400 in 2005 alone [71]. As the proposed program for Nairobi aims to reach impoverished slum-dwelling families, this is of high concern. Through extensive needs assessment analysis, and evaluating similar programs, it is apparent that providing holistic care will be essential for the proposed program. Therefore it is evident that strategic funding and financial sustainability will be required.

5.3 PROPOSED PROGRAM PLAN OVERVIEW

Mission: To empower holistic community-based support of vulnerable children and their families throughout the informal settlements of Nairobi, Kenya.

Vision: Care for children. Foster families. Support communities.

Programs: There are complex interconnections between children's health, nutrition and development. Therefore the Kenya Community Childcare Initiative adopts the holistic model of targeting nutrition, child development, child rights and protection, health, and economic strengthening. As children's survival, growth, and development are mutually reinforcing, it is essential that each of these aspects be provided. The Kenya Community Childcare Initiative (KCCI) promotes economic independence and healthy child development, empowering families through community-driven childcare centers, which provide protection, health, nutrition and education services to vulnerable children living in Nairobi's slums. Through the provision of these services, KCCI fosters holistic child development for children aged six months to five years. Community childcare centers will initially be implemented in six slum-settlements of Nairobi, with the plan to scale-up once sustainable . The Kenya Community Childcare Initiative is the first to bring this innovative model to sub-Saharan Africa, ensuring children's most vulnerable years are healthy. The specific KCCI programs are outlined below:

Community Childcare Centers: We offer children 6 months-5 years safe, healthy and development-focused childcare facilities. Facilities are community-driven and run by local community health workers (CHWs). In order to empower health homes, KCCI also provide

community outreach and education. Services include the following, but will vary depending on community needs (discussed more in the Activity Modules section):

- Safe and hygienic space for children to play
- Nutritious meals and snacks to prevent malnutrition
- Micronutrient supplementation for malnourished children
- Growth monitoring and support to ensure effective development
- Basic medical care monitoring, care and referrals
- Age-appropriate early childhood education for school preparedness
- Pre-school to primary school transition assistance
- Community child health, nutrition, and development training

Caregivers Empowerment: Children thrive most when they have a healthy home. Therefore our services empower self-sufficient positive economic opportunities for mothers through income generating activity training and start-up capital. Capital will be provided through interest free loans, produced through women's microfinance merry-go-rounds and small grants from KCCI. We focus on locally relevant and sustainable employment avenues, such as small business management, chicken rearing, community gardening, and cultural arts and crafts. Each woman will be supported from training to business implementation.

Goals:

Overall: Expand access to services that address the basic needs of young children.

Primary:

- Increase safe space for children, preventing abuse, poor health and neglect.
- Promote healthy growth and development of attending children under six years of age.
- Improve the health and nutrition of attending children under six years of age.
- Improve children's readiness to succeed in school and beyond.
- Increase siblings' school attendance.
- Increase maternal employment, particularly high-quality formal employment.
- Facilitate poverty reduction for community health workers.

Secondary:

- Increase caregivers knowledge of early childhood education, health and nutrition.
- Increase age-appropriate primary school enrollment.
- Decrease grade repetition in the early years of primary school.
- Increase community and private sector participation in the social development process.

5.4 TARGET POPULATION

Main Beneficiaries*:* Children are the primary beneficiaries, with a focus on those under the age of five-years living within the informal settlements of Nairobi. The secondary beneficiaries of the program are mothers, caregivers, teachers, as well as community health workers.

Young Children: The fastest period of brain growth is within the first five years of life. This stage creates a vulnerable time period where children are most susceptible and affected by illness, malnutrition, stress, lack of nurturing, and poor brain stimulation. Within this age group,

the 0-36 months timeframe is referred to as the “critical window” of development vulnerabilities but also profound opportunities. These opportunities have lasting impacts on children as they enter primary school, secondary school, and eventually adulthood. When investments are not made in these essential years, a tragic loss of human potential is occurring.

Caregivers: Childcare is an unmet need throughout Nairobi. The interplay of female employment and family formation within Nairobi’s informal settlements is a growing source of concern. In order to improve maternal employment, there must be affordable and accessible childcare services available. This is supported by numerous studies and international agencies which say childcare is an essential facilitator for women to improve household livelihoods. The Kenya Community Childcare Initiative’s services will benefit caregivers and their families, through increased time for employment, relieved stress, and higher income returns. Additionally caregivers will be provided with knowledge in the optimization of their children’s health and development. Caregivers will be empowered with skills and activities to address the needs of their children.

Siblings: Access to early childhood care has immense benefits for siblings, particularly young girls. Early childhood interventions remove the task of childcare from older siblings so that they can return to school. Therefore the Kenya Community Childcare Initiative relieves this burden, empowering young girls to increase their school enrollment.

Families: Through the increased capacity of maternal employment, family’s livelihoods will improve. When mothers work, more resources are channeled into the health, shelter, education,

and nutrition of children and their families. Therefore the Kenya Community Childcare Initiative will increase livelihoods and improve family-wide access to basic needs.

Community Health Workers: Community Health Workers (CHWs) within Nairobi's slums are volunteers. Despite working long hours in demanding and sometimes dangerous environments, the majority of international organizations do not pay them. CHWs therefore remain in poverty despite their contribution to the health of their communities. The Kenya Community Childcare Initiative is providing an employment opportunity for these dedicated women, and providing the opportunity for them to become an integral role in the decisions made for their community's social development.

The Informal Settlement Community: Successful cognitive and emotional development in a child's first five years translates into tangible economic returns. Early interventions yield higher returns when compared with supportive services later in life. Focusing on holistic early childhood development has positive outcomes that are proven to empower entire communities to thrive long-term. The Kenya Community Childcare Initiative will bolster community-wide support for improved early childhood health and development to promote long-term success.

5.5 ACTIVITY MODULES

The benefits of holistic childcare have been presented above, and serve as the gold-standard for childcare programs. The gold standard for KCCI is a full implementation of all activity modules. The activity modules are: providing care and protection, improving child nutrition, improving

child health, improving child development, and economic empowerment. However this comprehensive system is not always feasible for the setting, available resources, and needs of the community. Therefore this program plan has developed a core set of childcare modules that should be considered when developing new programs within a particular community.

The minimum package recommended for childcare implementation is the Child Care and Protection module. Additionally required is some level of nutrition support incorporated into the care model, although not all nutritional aspects are essential in the basic package (i.e. micronutrient supplementation). However the recommended standard is incorporating the Child Nutrition and Health modules into the Child Care and Protection programs. Prioritized next is the Child Development module, which is often easily incorporated into child care programs. The last module, which is also vital to sustainability and the continuation of quality care into the home, is the Economic Empowerment module. When all components are combined, holistic care for children is provided and has the potential for increased positive outcomes. Find the detailed description of each module in Table 13, including their goal, activities, and outcomes:

TABLE 13: Kenya Community Childcare Initiative Activity Modules			
Module	**Goal**	**Activities**	**Outcomes**
Providing Child Care and Protection	Provide safe space for children while mothers seek employment. The child care and protection program aims to enhance the capacity of communities to conduct child care.	a. Ensuring secure, hygienic, and supervised facilities providing care for children 6 months to five years of age. b. Training of community health workers to serve as skilled community caregivers. c. Community education on children's rights and home-based protection. d. Meet all basic needs of attending children in terms of food, safety, supervision, and overall child maintenance. e. Engage parents and other caregivers in provided care, updating them on their child's status, and provide them with recommendations on home-based care.	a. Increase proportion of community children provided quality and hygienic daily care b. Reduce child neglect and abuse, as well as morbidity and mortality associated with these conditions c. Increase maternal employment and sibling school enrollment d. Train ten staff members in child care and protection e. Increase proportion of caregivers providing safer home-based care f. Increase community child protection knowledge and good practices by training 150 caregivers annually
Improving Child Nutrition	Improve the nutritional status of attending children under 5 years of age.	a. Nutritious meals and snacks for all attending children b. Micronutrient supplementation (vitamin A, iron, iodine, zinc, PlumpyNut) c. Child growth monitoring (weight, height, MUAC) and promotion at the childcare centers through the use of "Growth Cards" d. Community education on child nutrition and growth monitoring e. Community garden and chicken rearing sustainability projects will provide nutrition inputs to the childcare centers f. Partnerships with Concern Worldwide and Lea Toto to monitor the nutritional status of attending children	a. Increase childhood malnutrition and micronutrient deficiency detection b. Increase the quality of nutrition received by attending children c. Reduction of underweight malnutrition amongst attending children d. Reduction of stunting amongst attending children e. Reduction of micronutrient deficiencies amongst attending children f. Train ten staff members per center in malnutrition detection and treatment g. Increase community child nutrition knowledge and good practices by training 150 caregivers annually
Improving Child Health	Reduce childhood morbidity and mortality by improving case management and preventive skills of childcare center staff, as well as empowering communities and caregivers to improve child health practices.	a. Improve health skills of CHWs and other staff through training from healthcare professionals b. Use the Community Integrated Management of Childhood Illness (C-IMCI) for child health assessments and monitoring c. CHWs conduct "health check-ups" every three months for 0.5 to <2 year olds, every six months for 2-5 year olds d. Provide health services (de-worming, oral-rehydration, infection treatment) e. Develop partnerships with local clinics for referrals f. Ensure vaccinations for attending children, providing links to services g. Provide hygienic space for children to play h. Provide safe drinking water for attending children i. Community child health education, providing linkages to care	a. Reduction of anemia, diarrhea, and acute respiratory infections for attending children b. Reduction of stunting amongst attending children c. Increase childhood illness detection amongst attending children d. Increase number of consistent health check-ups for attending children e. Increase health seeking behavior of attending children's caregivers f. Train ten community health workers per center in child health and basic nursing g. Train ten staff members per childcare center in IMCI case management h. Increase community child health knowledge and good practices by training 150 caregivers annually

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Module	Goal	Activities	Outcomes
Improving Child Development	Enhance early childhood development and education for attending children, and improve primary school enrollment, decrease grade repetition, and optimize life-long learning.	a. Development and printing of early childhood curriculum materials b. Training of community pre-school teachers to provide early childhood education c. Implement early childhood activities for optimum child development, targeting specific age ranges d. Track and assess motor and cognitive skills of attending children e. Provide a referral system with local primary schools, providing transitional assistance f. Community education on child development optimization through home-based care and activities	a. Improve social, cognitive, and physical child development of attending children c. Increase primary school preparedness for all attending children d. Reduction of primary school grade 1-2 repetition e. Reduction of primary school dropout rate f. Increase age-appropriate school enrollment g. Train ten staff members in early childhood education and development per childcare center h. Increase community child nutrition knowledge and good practices by training 150 caregivers annually
Economic Empowerment	Improve the economic situation of young children's families, and in result improve the livelihoods of vulnerable children.	a. Community education on business development and management b. Coordinate savings and loans support groups amongst caregivers c. Provide practical and job skills training for increased caregivers employment d. Provide employment obtainment guidance and support, as well as job referrals	a. Increase maternal employment of families with attending children, and the community more widely b. Increase proportion of mothers/caregivers within the formal employment sector c. Increase capacity of families with attending children to meet the basic health, nutrition, shelter, and education needs of their children d. Increase financial stability of families with attending children, and the community more widely

5.6 PROGRAM LOGISTICS

Childcare center capacity:

The capacity of each childcare center will vary, depending on the breadth of services provided, size of facility, and number of staff available. Children will be organized into three separate age groups for service provision, resulting in distinctive rooms for their care. The three age groups are: Infants (6 to 18 months), Toddlers (18 to 36 months), and Pre-school (3 to 5 years). As their needs and demand for care varies, so will their standard staff to child ratio. The number of children accessing services within a particular childcare setting is highly dependent on the number of staff employed.

It is essential to maintain a high staff to child ratio to ensure the needs of all children are met, and providing quality attention and nurturing. Adhering to these standard will ensure frequent personal contact for children, significant learning activities, supervision, and to offer immediate care as needed. The ratio of staff to children varies depending on the age of the children, the type of program activity, the inclusion of children with special needs, and more. The model presented below in Table 14 has been adapted from the United States National Academy of Early Childhood Programs recommendations. Although daily fluctuations of service utilization will occur, efforts to achieve this ratio must be pursued. Therefore when a maximum staff to child ratio is achieved, additional children cannot be accepted into the program. See Table 14 below for the full staff to child ratio breakdown.

TABLE 14: Recommended Staff to child ratios (based on group size)									
	Group Size								
Age of Children	**6**	**8**	**10**	**12**	**14**	**16**	**18**	**20**	**24**
Infants (6 mos to 18 mos)	1:03	1:04							
Toddlers (18 mos to 36 mos)			1:05	1:06	1:07				
Pre-school (3 - 5 years)						1:08	1:09	1:10	1:12

For children under eighteen months of age, there must be one staff member to every four infants. It is recommended that no group is larger than eight infants. However there may be one staff person supervising up to 12 sleeping infants if remaining staff to meet the 1:4 ratio are at the center. Children in the 18 to 36 months age group are within the toddler's section. Within this group it is recommended that there be one staff member to each set of six toddlers. The staffing model recommends this group not exceed twelve toddlers in total. Finally is the three to five year old age group. Within this group, it is recommended that there be one staff member to each set of 12 children, or one teacher and an aide for 15 children. The recommended cap on the three to five year child cohort size is 24 children. Using the maximum number of children within each age group recommendations, the standard number of children served each day will be ~8 infants, ~14 toddlers, and ~24 pre-school aged children, totaling 46 children served daily in one childcare facility. This number can be expanded with the provision of additional rooms to separate different groups of children, and through hiring additional staff.

Registration:

Each individual childcare facility is required to register through the local Ministry of Gender, Children, and Social Development chapter at the district level. Registration is channeled through the local Area Advisory Council (AAC), which will be different for each informal settlement.

Registration costs 5,000 Kenyan Shillings (~60 USD). Through registering with this Ministry, all participating programs must abide by the Charitable Children's Institutions Regulations and the National Children Act. These policies have developed detailed guidelines on minimum standards for child care programs within Kenya.

Additionally it is essential that each facility register with the National Council for Children Services and National Council of Community-based Organizations. These agencies serve as national monitoring structures for non-governmental and community-based organizations within Kenya. Within Kenya, the National Council for Children Services has developed the National Children Policy. The policy mandates that all children within Kenya have the right to survival, health, education, protection from neglect and abuse, as well as access to leisure, recreation and play activities. When a program is registered with the National Council for Children Services, it must follow these guidelines. Registered agencies must undergo an initial inspection to ensure programs follow the National Children's Policy, as well as have annual follow-up visits from local representatives.

5.7 RESOURCES AND TRAINING

The resources required to implement the childcare centers and caregiver empowerment programs are few. Find the complete list of needed resources below in Table 15. After initial resources are purchased, very few materials are necessary once the main inputs are put in place. Further with the implementation of the income generating activities for the childcare center, ideally all continuously needed resources will be purchased with these funds. Additionally the Kenya

Ministry of Gender, Children, and Social Development, as well as Concern Worldwide will provide continuous small-scale support in country for social services and nutrition respectively.

TABLE 15: Required Inputs

Materials & Supplies	Medical & Nutrition Inputs	Childcare Resources	Communications & Facilities
Mattresses	De-worming medication	Reusable Diapers	Printing
Beds	First-aid supplies	Baby powder	Cell Phone airtime
Bedding	Basic medical equipment (thermometer, stethoscope)	Baby lotion	Filing system
Chairs	Scale & Measuring tape	Soap	Childcare center rent
Early childhood education materials	Micronutrient supplements (iron, iodine, Vitamin A)	Washcloths	Promotional materials (flyers, t-shirts)
Utensils (cups, bowls, plate, forks)	WaterGuard and safe water vessel	Child toilet	Internet airtime
Rugs / playmats	Health and growth monitoring booklets	Toys	Chickens and chicken coup
Washing basins	Garden seeds and fertilizer		Security

Training of the childcare center staff will be conducted to ensure a knowledgeable and skilled cohort of childcare staff. There will be limited resources needed to implement these trainings. All the space, instructor, and curriculum needs have been met, however printing, paper, and food must be provided. The staff training topics and facilitators are detailed in Table 16.

TABLE 16: Staff Training

Topic	Facilitator
Childcare management / Rules and Regulations	Upendo Children's Home
Reporting and Filing Practices	KCCI Program Director
Quality childcare practices	Nyumbani Home
Children’s Rights, child neglect and abuse	District Children’s Office
Children and family counseling / psychosocial issues	Lea Toto counseling department
Under-5 Nutrition	Lea Toto nutrition department
Basic Nursing Skills	Lea Toto clinical department
Under-5 Health and hygiene	Lea Toto clinical department
Community Integrated Management of Childhood Illness (C-IMCI)	Lea Toto clinical department
Early childhood education	Nyumbani Home
Special Needs Children	Feed the Children
Project Management	Nicholas Makau and Francis Ndegwa

5.8 SUSTAINABILITY PLAN

The community-driven nature of this program is the defining principle of KCCI's services. The childcare centers under KCCI aim to counter the traditional health and development programs, which often use a top-down and externally funded approach. While this approach empowers the communities that KCCI serves, it challenges the long-term financial viability of the program. Therefore KCCI has developed a strategic plan to remain sustainable without consistent international funding. KCCI's childcare centers will require start-up capital for program implementation, and then initiate activities to remain largely internally sustainable. Childcare centers will also secure funding from the Government of Kenya for childcare and education support programs, and the potential for limited nutritional support from an international funder. This model empowers the community to directly engage with the social development of their community, resulting in community ownership and dedication to the program. Through this framework the childcare centers will have long-term impact.

There are significant initial capital costs, however these will decrease when basic infrastructure is completed. Funds to acquire the required resources will be obtained through fundraising and grant writing. Sheela Bowler is conducting grant writing, in addition to local Kenyan staff. Thereafter each childcare center has the goal to become fully sustainable within three-years via social enterprise activities, (low) childcare fees from caregivers, and small-scale governmental support. Additionally nutritional inputs will be provided by a Lea Toto partnership with Concern Worldwide. The specifics of each of these sustainability components are detailed below.

Social Enterprise:

With the growing desire to decrease donor dependency, development programs are beginning to incorporate private-sector entrepreneurial activities. This is known as social enterprise, an income-generating activity whose revenue is used to support a program's mission. In order to achieve self-sufficiency, community childcare centers will implement social enterprise activities to circulate profits back into the program's budget. This will allow the childcare centers to achieve independence and contribute to their own community's social development. The specific social enterprise activities will vary for each center, as there are diverse community needs, demand, and existing services, however examples are provided below in Table 17. Social enterprise implementation can be developed using the program development timeline detailed below.

1. *Determine the social enterprise activity:* Assess the skills of childcare center staff to determine which social enterprise activities may be feasible. All staff members should agree upon the activity, as each staffer will contribute to the income generating activities.

2. *Evaluate need, demand, and supply within the local community:* Ensure there is adequate need for the social enterprise, local demand for the product, avoid duplicative efforts within the local community, and verify that all necessary inputs are available. If one of these aspects is insufficient, proceed back to step one and identify a new social enterprise.

3. *Develop business plan:* Once the social enterprise has been fully determined, a detailed business plan must be developed. This will feature inputs, activities, roles and responsibilities, marketing location, and budgeting.

4. *Conduct training and acquire necessary inputs:* All staff must receive training on the specific income generating activity, as they will each play a role in the project. Simultaneously grant writing will be conducted to obtain the funds required for initial start-up costs. Subsequently all inputs will be locally purchased from their respective informal settlement community.

5. *Implement the social enterprise:* The social enterprise must be marketed throughout the community to generate demand for the products sold locally. This will occur concurrently with the implementation of the activity itself and selling of the product(s).

TABLE 17: Potential Franchising Projects
Chicken rearing (recommended for nutrition support)
Rabbit rearing (recommended for nutrition support)
Community garden to sell produce and seeds (recommended for nutrition support)
Cooking local food (recommended for nutrition support)
Cooking coal production
Cultural arts and crafts for tourist markets
Jewelry, clothing, bags for local communities
Selling snacks, drinks, and/or other food items
Soap production

Childcare fees:

Originally Lea Toto participation began pursuing the childcare program as a means to improve the financial viability of their families. The lack of childcare was seen as a major barrier to

economic opportunities for women with young children. Therefore providing childcare was a means of empowering local families to improve their overall livelihoods and decrease their dependency on programs such as Lea Toto. Additionally social workers and community health workers stated that in order to instill value and community ownership over the program, it is essential to require that caregivers pay for the service. This is vital as one of the major goals of the program is to empower economic self-sufficiency for the families of attending children.

Mothers or other caregivers will not be required to pay the full amount for the first two weeks. They will only pay fifty-percent of the childcare fee. This will allow them to both find employment (informal or formal) and build small savings from their initial work. Their fees will subsequently increase with a seventy-five percent charge for the third and fourth weeks, and eventually pay in full from the fifth week using services. Social workers and community health workers stated this was a viable solution, and would encourage mothers and other caregivers to use the services initially, and see the benefits before having to pay the full fee.

The total fee varies depending on the informal settlement. As discussed within the community needs assessment results, different informal settlements have varying income and poverty levels, community organization involvement, and child care and education services available. As such the cost from center to center will vary. The needs assessment asks social workers, community health workers, and caregivers themselves how much they can pay for their services. Additionally a competitor analysis will be conducted throughout each program, which will indicates cost of local services. This information will be compiled and determine the standard service fee for an individual community's childcare center. From the previously conducted needs

assessments, Table 18 below indicates the fee structure for Kawangware, Kibera, and Kariobangi.

TABLE 18: Daily Fee Structure (Kenyan Shillings, 83ksh = 1USD)				
Location	**Age-Group**	**Childcare**	**Childcare, Health, and Nutrition**	**Childcare, Health, Nutrition, and Education**
Kawangware	*Infants*	60	80	80
	Toddlers	50	75	85
	Pre-school	50	75	95
Kibera	*Infants*	40	60	60
	Toddlers	30	55	65
	Pre-school	30	55	75
Kariobangi	*Infants*	40	60	60
	Toddlers	30	55	65
	Pre-school	30	55	75

While this system is recommended for the program's sustainability, there is concern raised as to whether or not the most vulnerable and needy families will be reached. Needs assessment participants stated that their HIV positive single-mother clients would be unable to pay for such services. In response they raised the idea of subsidized fees for the most impoverished families. However this practice could raise conflict within the community, lead to dishonest wage reporting, and ultimately compromise the program's success. Therefore in order to reach the most vulnerable populations and account for fluctuations in maternal employment and unforeseen events, the Kenya Community Childcare Initiative will offer emergency fee subsidization. This subsidy will be available to families on a case-by-case situation following an individual evaluation. Families will pay either 25% or 50% of the childcare fee for an independently determined timeframe. A family can be enrolled into this program for a maximum number of three times.

Government Grants:

When they are registered with the National Ministry of Gender, Children, and Social Development, community-based organizations can apply to grant funding. Grants are small-scale renewable funds for annual support. Additionally special project funding is available periodically. Therefore if a childcare center would like to offer a one-time community project, they could seek funding from the Government of Kenya. The local Department of Children Services also provides small-scale funding opportunities, in addition to the National Council of Community-based Organizations. The childcare center staff will pursue these opportunities via proposal development and application submissions.

Nutrition Support:

The exception to limiting outside funding is the nutritional module. As high quality nutrition is expensive, particularly micronutrient supplementation, the cost of these inputs would threaten the viability of the program, particularly within the first three-years of operation. Therefore Concern Worldwide, a major collaborator with Lea Toto, will provide nutritional support. For the first three years they will provide small grants for nutritious meal and snack provisions, in addition to micronutrient supplementation. After three-years when the program has become self-sufficient, the grants for nutrition purchasing will be discontinued. The social enterprise activities will generate income for the increased cost in nutrition support. However additionally recommended is the use of the social enterprise opportunity to be nutrition related (i.e. chicken or rabbit rearing, community garden). In result this activity would provide additional nutrition support to attending children. The micronutrient supplementation program will continue to be sponsored and supplied by Concern Worldwide.

5.9 TIMELINE

Current Status:

The program will pilot in Kawangware because a needs assessment and competitor analysis spearheaded by the Lea Toto community-based organization has been completed. KCCI has a cohort of community health workers who meet bi-weekly to develop implementation and management plans. They are currently raising the funds for local government registration (5,000 Kenyan Shillings). Training curriculum has been developed and will be conducted by government ministries and NGOs when start-up funding is obtained. KCCI will then obtain space, procure supplies, and conduct outreach. CHWs will subsequently facilitate expansion (assessment, training, implementation) to other Nairobi informal settlement sites. A community needs assessment has been conducted in Kibera and Kariobongi, resulting in the need to recruit community health workers and other community members to serve as staff. A community needs assessment will be conducted in two additional informal settlements, Dagoretti and Kangemi. Subsequently community health workers will be recruited from each of the sites.

TABLE 19: Five-Year Program Implementation Timeline (2013 – 2017)

YEAR	Kawangware	Kibera and Kariobangi	Kangemi and Dagoretti
2013	o Implementation of the Kawangware childcare center o Health and nutrition services implemented within the childcare center o Early childhood development activities implemented o Community and caregiver training for child health and development	o Kibera and Kariobongi community health workers and staff recruited o Conduct training for all Kibera and Kariobongi community health workers and other staff	o Community needs assessment conducted at Kangemi and Dagoretti informal settlements
2014	o Childcare center-based income generating activities initiated (garden, poultry, crafts) o Caregiver income generating activity and business management training conducted monthly	o Program implementation in the Kibera and Kariobongi childcare centers o Health and nutrition services implemented within Kibera and Kariobongi o Early childhood development activities implemented	o Kangemi and Dagoretti community health workers and other staff recruited o Conduct training for all Kangemi and Dagoretti community health workers and other staff
2015	o Kawangware childcare center becomes self-sufficient from community garden, chicken rearing, and other locally relevant small-business projects	o Community and caregiver training for child health and development o Childcare center-based income generating activities initiated (garden, poultry, crafts) o Caregiver income generating activity and business management training conducted monthly	o Program implementation in the Kangemi and Dagoretti childcare centers o Health and nutrition services implemented within Kibera and Kariobongi o Early childhood development activities implemented
2016	o Begin planning for another childcare center in the Kawangware community.	o Kibera and Kariobongi childcare center becomes self-sufficient from community garden, chicken rearing, and other locally relevant small-business projects	o Community and caregiver training for child health and development o Childcare center-based income generating activities initiated (garden, poultry, crafts) o Caregiver income generating activity and business management training conducted monthly
2017…	o Serve as a holistic early child care model for sub-Saharan Africa o Advocate on a policy level to support to early child care programs o Scale-up the program to additional informal settlements and other parts of Kenya		o Kangemi and Dagoretti childcare center becomes self-sufficient from community garden, chicken rearing, and other locally relevant small-business projects

Expansion:

The Kawangware community wants to expand the program and have multiple sites throughout the informal settlement. Nyumbani, Lea Toto, and the Ministry of Children Services leaders have encouraged this eventual expansion. Therefore once a successful childcare center has been implemented and made sustainable, KCCI will assess need and demand for increased service provision. This will detail service modules, geographic location, and respond to challenges of the original childcare facility.

Expansion beyond the first five informal settlements identified will also occur. Lea Toto currently works in eight informal settlements, and will facilitate needs assessments, staff recruitment and training, as well as implementation support throughout the additional three. These additional informal settlements are: Zimmerman, Mukuru, and Dandora. Eventually each of these sites will become incorporated into the Kenya Community Childcare Initiative services. Throughout Nairobi there are additional informal settlements that are consistently shifting and growing. While these settlements will be more difficult to enter, as KCCI would lack local trust and support from a Lea Toto office, the Kenya Community Childcare Initiative will attempt to enter these communities once effectiveness and standard protocol are resolute. KCCI will work with local agencies to ensure the local context is addressed and community trust is established. Finally the Kenya Community Childcare Initiative will explore opportunities to expand beyond the informal settlements into other vulnerable and impoverished regions of Kenya.

Ultimately it is recommended that the Kenya Community Childcare Initiative expand beyond the child, family, and community level to the policy and national level. UNICEF, the World Bank,

WHO, and other agencies encourage the need to focus on this “mega-level” to ensure wide-scale support for vulnerable children. While Kenya has a pre-existing national early childhood education policy, the quality and implementation of services has been limited. Therefore the KCCI model will be used to leverage support and evidence for the expansion of similar services. This will not only advocate for increased early childhood education and development, but also emphasize the importance of care for children under the age of three, which has largely been neglected within Kenya. There certainly is need identified for this population, but policies and services are absent. Therefore KCCI will provide a model example of quality young child care (under three years), and the effectiveness of community-driven responses to this need.

5.10 STAFFING PLAN

The childcare centers will require a well-trained, dedicated, and community-trusted cohort of employees. This staff cohort will depend on the activity modules implemented within a particular center. Each staffing position has the associated activity module indicated. All employees must come from the informal settlements themselves. This is essential to ensure they are trusted and supported by the community. Recruitment for each position will be conducted by the Program Director. Announcements for open positions will be distributed during the community needs assessment procedure and community mobilization process. Those involved in the community needs assessment will have position priority. This provides an advantage to Lea Toto community health workers, as they are the primary needs assessment agents. This is supported by the Lea Toto organization. These CHWs have been dedicated advocates for the children within their

communities, and have been trained extensively. With this position, they are still able to conduct their volunteer Lea Toto duties.

Post-recruitment, community members will be asked to submit an application for employment with the Program Director who will be hired prior to recruitment (other than Kawangware where a staff cohort has already been established). Thereafter all potential employees will be interviewed and chosen by the Program Director. The size of the cohort will depend on the childcare center capacity. Strict guidelines of staff to child ratios will be maintained, and thus the number of staff will vary. However minimally there will be one Site Supervisor per childcare facility, one Nutritionist, and one Security Guard. Additionally each age group must have one Community Health Worker assigned to care for the children. For the three to five years age group, there must be at least one Early Childhood Teacher. These numbers may increase if the program capacity expands beyond the recommended staff to child ratios as discussed in the Capacity Details section above. Finally once the staff cohort for the particular childcare center is determined, training will commence. Presented below is a detailed description of the required staff and their respective responsibilities.

Program Director *(Position required for all modules):*

There will be one full-time Program Director for the entire program, and is only necessary when the program expands beyond one facility. He/She will coordinate program implementation, manage the program staff, serve as the liaison between KCCI's partners and the specific childcare center sites, as well as coordinate grant funding and develop donor support. The

Program Director will be hired prior to the other staff in order to take part in the recruitment, hiring and training phase.

Responsibilities:

- Determine program modules to incorporated into specific childcare centers
- Develop all program policies, rules, and regulations
- Maintain all external partnerships, donors, and collaborations
- Conduct program monitoring and evaluation
- Supervise all childcare centers, managing all Site Supervisor
- Create and maintain program budgets

Site Supervisor *(Position required for all modules):*

Each center will have one full-time Site Supervisor. A community health worker or community caregiver can hold the position. This person in this position will receive advanced training in program, business, and staff management, including budgeting and program evaluation. The Site Supervisor will serve as the main liaison between the Program Director and the specific childcare center. They will be in-charge of coordinating site level programs and activities, as well as manage all staff.

Responsibilities:

- Ensure a positive, caring and safe environment for all children
- Create an environment reinforcing positive social skills, healthy habits, and fun learning
- Assist Program Director with monitoring and evaluation
- Coordinate site-level budgeting in conjunction with the Program Director
- Make sure all program policies, rules, and regulations are enforced

- Coordinate childcare center staff meetings
- Supervise all community health workers, community caregivers, early childhood teachers, nutritionist, and security guard
- Facilitate all site-level external partnerships, donors, and collaborations in conjunction with the Program Director

Community Health Worker *(Position required for child health module):*

There will be one full-time Community Health Worker (CHW) per age group. Each community health worker will have worked and lived in his or her informal settlement community for at least five years. CHWs know the community, their needs, and the demand that exists. Without their local knowledge, community trust, and dedication to the improvement of children's health, KCCI would be lost. Community health workers are the backbone of the Kenya Community Childcare Initiative. They coordinate all health related interventions.

Responsibilities:

- Provide an positive, caring and safe environment for children that reinforces positive social skills and creates a healthy and fun learning environment
- Supervise and provide supportive guidance for assigned children
- Work in collaboration with Nutritionist, Community Caregivers, Site Supervisor, and Program Director
- Ensure the safety of all activities and of the overall environment
- Verify immunization status of attending children, referring children who have not completed their sequence
- Provide de-worming, oral rehydration, infection treatment, and first aid care

- Assess the health of children appearing ill using the Community Integrated Management of Childhood Illness (C-IMCI)
- Conduct all "health check-ups" for attending children
- Complete and file necessary child health and growth monitoring forms:
  - Health Check-up Reports
  - Clinic referral forms
- Conduct community and/or caregiver health education sessions

Nutritionist *(Position required nutrition module):*

Each childcare center will have one full-time Nutritionist on site. The nutritionist will not only coordinate all activities as they relate to food and nutrition within both the center and community, but they will also manage monitoring the nutritional status of attending children. It is essential to have someone specifically trained on the importance and efficacy of nutrition support, enabling an effective nutrition component to childcare. Within the informal settlements this is vital to improving children's health.

Responsibilities:

- Provide all attending children nutritious meals and snacks, in addition to safe drinking water
- Assess all attending children's nutritional status
- Provide micronutrient supplementation to vulnerable children
- Complete and file necessary child growth monitoring and nutrition forms:
  - Growth Cards (i.e. weight, height, MUAC monitoring)
  - Malnutrition Reporting

- Deliver targeted social and nutritional support to families of malnourished children
- Conduct community and/or caregiver child nutrition sessions
- Coordinate community garden and chicken rearing projects

Early Childhood Teacher *(Position required for child development module):*

The childcare centers incorporating the early childhood development and education module will require one full-time teacher who specializes in early childhood education. This is essential for the three to five years age group, and is not required for children under the age of three. They will provide all activities as they relate to education, development, and school transitions. This position will receive additional training in early childhood education, development, curriculum design, and teaching.

- Provide an positive, caring and safe environment for children that reinforces positive social skills and creates a healthy and fun learning environment
- Supervise and provide supportive guidance for assigned children
- Develop and implement early childhood education for each age-group
- Work in collaboration with Community Health Workers, Community Caregivers, Nutritionist, Site Supervisor, and Program Director
- Respond immediately and provide follow-up to all incidents including child behavior, incidents and accidents
- Develop partnership and referral system with local primary schools
- Complete and file necessary child care monitoring forms:
    - Cognitive and motor skills Reports
    - Social skills Report

    - Child Development Assessments
- Conduct community and/or caregiver child care and development sessions

Community Caregiver *(Position required for all modules):*

Community Caregivers are essential to the childcare centers. It is recommended that a community health worker, community teacher, or otherwise experienced community member fill this position. There will be a full-time Community Caregiver for the six month to eighteen month age group, and the eighteen month to under three years age group. This position is largely responsible for providing quality nurturing, safe, and engaging childcare services.

Responsibilities:

- Provide an positive, caring and safe environment for children that reinforces positive social skills and creates a healthy and fun learning environment
- Supervise and provide supportive guidance for assigned children
- Implement daily creative and engaging age-appropriate activities
- Work in collaboration with Community Health Workers, Nutritionist, Site Supervisor, and Program Director
- Respond immediately and provide follow-up to all incidents including child behavior, incidents and accidents
- Complete and file necessary child care monitoring forms:
    - Discipline, incident, and accident reports and log
    - Parent communication log

Security Guard & Groundskeeper *(Position required for all modules):*

Each facility will require one full-time security guard and groundskeeper. As the childcare centers will be implemented within the informal settlements, security is a major issue. Therefore this position will be in charge of developing and implementing all security measures for both day and night protection. Additionally this position will ensure that the grounds are kept clean and hygienic. As such this position will receive training on maintaining hygienic and sanitary conditions.

Responsibilities:

- Develop and implement security measures in conjunction with the Site Supervisor
- Manage childcare center security and safety for all children
- Maintain overall external and internal cleanliness of childcare facility
- Facilitate the functioning of childcare center income generating activities (i.e. community garden, chicken rearing, etc.)

5.11 PROJECT OPERATING MODELS

National Support:

Kenya has an established early childhood education program. This policy was initiated in 1980, however with limited implementation programs, predominantly in rural regions. Developed centers often do not follow standards, and quality of care is reportedly low. However Kenyans generally perceive early education as key to a successful life. Building from this commitment, KCCI is working within a supportive cultural, political, and economic atmosphere for early learning.

Collaboration:

Collaboration among various service providers is critical for the success and effective implementation of quality care services for children. Therefore KCCI will strive to make continued connections with local government agencies, schools, clinics, and community organizations. In creating a linkage system of child support services, individual communities are able to leverage their expertise to provide necessary services without duplication.

Community-driven:

Many organizations have limited local leadership and poor cultural competency, resulting in unsuccessful programs. KCCI is unique in facilitating community-driven sustainable projects. KCCI was born from the community itself, responding to the voices of the women who desperately desire this service. The employed community health workers live in the slums, know the families, and understand their needs. We embrace a participatory model where we are equal partners with the communities we serve. This builds knowledge and expertise in the community, while allowing them to own their futures.

Holistic care:

It is undeniable that there are complex interconnections between child health, nutrition and development. Achieving a child's optimum development requires the basic needs of safety, nutrition, and health throughout their earliest years. However these basic requirements do not meet all of young children's needs, this must be accompanied by affection and nurturing care, in addition to informal and formal interactions. As children's survival, growth, and development

are mutually reinforcing, it is essential that community health services incorporate each of these aspects into an early child service program.

5.12 MONITORING AND EVALUATION

To develop effective sustainable programs, measurable outcomes tracking program progress are essential. KCCI's monitoring aims to improve the efficiency and effectiveness of our programs. This will help identify any challenges, as well as suggest possible solutions to problems. Throughout implementation, monitoring will be conducted to measure KCCI's progress. These metrics will first be obtained throughout the local community prior to implementation. This will determine a baseline for future outcome data comparisons. Additionally when children arrive at the childcare facility on the first day, these measures will be obtained individually. Subsequently the measures will be assessed both center wide after each six-month period, but also for each child at each 6-month attendance duration. The complete list of monitoring and evaluation activities are included within Table 20 on the following page.

TABLE 20: KCCI Monitoring and Evaluation Indicators		
	Process measures	**Outcome measures**
Pre-implementation monitoring	Total funds raised # of community, government, clinic, school partnerships # of community health workers trained and employed # of staff training topics and sessions # of community mobilizations to market program Baseline process and outcome measures as indicated	N/A
Monitoring Facility Implementation	# of childcare centers implemented # of children using services ages # of childcare modules selected Development of early childhood activity materials	Caregiver service satisfaction Employee satisfaction
Monitoring Impact on Children	# of childcare center "health check-ups" provided # of children receiving ORS # children receiving de-worming tablets # of children referred to local clinics # of nutritious meals served # of children receiving micronutrient supplementation # of children receiving early childhood education	Rate of childhood illness (diarrhea, respiratory infections) # of children recovering from malnutrition/micornutrient deficiencies # of children arriving unvaccinated, receiving full vaccination sequence Rate of under nutrition (wt for age) Rate of stunting (ht for age) Rate of wasting (wt for age) Motor and cognitive capacity and skills Age at primary school entry # of children repeating primary school grades in the first two years
Monitoring Impact on Caregivers	# of caregiver childcare trainings conducted # of caregivers trained in child health and development # of families enrolled in empowerment program # of caregivers trained in income generating activities # of caregivers provided small-scale business capital	# of caregivers transitioning from informal to formal employment Rate of caregiver employment Rate of caregivers reporting improved childcare behaviors # of caregivers "freed up" to seek education and/or employment
Monitoring Impact on Community	# of community partnerships developed # of staff development trainings # of community members engaged in program design # of community child health and development trainings	Siblings' rate of school attendance # of local community members employed Community reputation of the program
Post-implementation (Months 12, 24, 36, etc.), KCCI will undergo yearly formative impact evaluations including a counterfactual, measuring the program outcomes listed above when compared to families within the community not using KCCI services.		

5.13 ASSUMPTIONS

Community Support: There is widespread community support for the project by community health workers, informal settlement health organizations, and top health officials in Nairobi, as well the caregivers themselves. Through this support, KCCI has received extensive guidance for program design and implementation. This community support is assumed to continue throughout the project.

Initial Funding: A major assumption of KCCI is the availability of initial funding in order to establish centers in the six targeted informal settlements of Nairobi. This is necessary in order to provide quality services to all clients. Without initial capital, KCCI will lack the resources to employ its interventions.

Participation by families*:* Formative research has shown that there is a great demand for KCCI services in several informal settlements of the city, and it is assumed that this demand will continue in all areas served. We have conducted a competitor analysis to see if any similar services are provided in Kawangware, and this will be conducted throughout the five remaining sites. This ensures that we are not duplicating efforts, but instead can leverage partnerships where possible and optimize services where they are needed most. The results show that if demand continues, then the services will be used extensively by the families within these communities as our services are unique to the region.

Social Stability: Continued social stability in the informal settlements is vital to the efforts of KCCI. Tribal conflict is unlikely, but within Kenya this is a pertinent cultural aspect to be aware

of. Nairobi has seen limited instability within the informal settlements, and this trend is expected to continue. However risk reduction and response strategies are being developed.

5.14 RISK MANAGEMENT PLAN

Throughout the community needs assessment, both social workers and community health workers expressed a number of concerns regarding potential risks to be encountered. In addressing these concerns, together with the facilitator they developed action plans related to particular incidents. The major situations discussed were child abandonment, safety and behavior incidents, ill children, the inability of mothers to pay, and inadequate maternal employment. Below is detailed information on how certain situations will be responded to within the childcare setting. New challenges are bound to occur, and this section will be expanded as KCCI encounters and addresses these issues.

Abandoned children:

Throughout the community needs assessments in Kawangware, Kibera, and Kariobangi, both social workers and community health workers highlighted the potential for child abandonment at the childcare facility. Participants stated it is a real concern that mothers and other caregivers may drop off their children and not return. Case studies of this situation were presented. In order to avoid this situation a number of measures will be introduced. First, when a first-time mother or caregiver brings a child to the center, they will be required to fill out paperwork. This paperwork will have a contractual agreement, in which the rules and regulations will be described (available in English and Swahili). The mother must provide her contact information,

which will be immediately verified through calling the cell phone number. Each caregiver will also be required to put another person down as a secondary caregiver, with their contact information. This will ensure that someone is available to contact if a child is abandoned. In the case of an abandoned child and inaccessible caregiver, a partnership has been developed with a local orphanage in Kawangware, Upendo Children's Home. The Director, Evaline Ingosi, has agreed to serve as a temporary shelter for any children who have been abandoned, while parental and familial contact is made. Within each informal settlement a similar partnership will be developed.

Safety incidents:

There is the potential for child safety events to eventually occur at the childcare center. In order to prevent this, safe and secure environments are provided with adequate supervision. When an event does occur, staff will be trained and directed to respond immediately. Basic first aid will be available for any injuries. With injuries or issues that are beyond the capacity of the childcare center, a staff member will immediately bring the child to a health clinic nearby in which a pre-determined relationship is set-up. This ensures that the child will receive care, and the childcare center or caregiver can either pay the bill at a later date depending on the situation. Each childcare center will have at least one partner clinic.

Behavior incidents:

Strict behavior rules for children will be established for each childcare center. Despite this, it is expected that children may misbehave at times. Therefore childcare center staff will be trained in how to respond to poor child behavior, and specific guidelines will be developed for response

and consequences. Additionally there will be report forms indicating the incident and put into the child's file. Depending on the severity of the incident, either the caregiver will be called or spoken with when they come to pick up their child. This is where established relationships with all caregivers will be essential. It is vital to engage the caregivers in the daily care of the child. Active engagement is key to success.

Ill children:

If a child is brought to the center ill, they will be immediately be referred to the clinic. In partnering with the clinic, these children will be ensured quality care and quick intake. Childcare center staff will follow-up with the child's mother or caregiver to ensure appropriate action was taken. This information will be documented in the child's health file. If a child becomes ill at the childcare center their situation will be assessed. In order to prevent illness transmission to other children, they will be separated. A community health worker who has received extensive training will asses the child's health status. If they are able to provide basic care, this will be provided. The mother or caregiver will be called immediately to retrieve their child and be told the situation. This collaboration allows community health workers to share the child's health condition with the mother and/or caregiver. They will explain their condition and any needed action for health improvement. If the severity of the situation is beyond the capacity of a community health worker, then the child will be referred to the clinic. With high severity, a staff member will immediately take the child to the clinic, as well as inform the mother or caregiver to join them. If the health condition can wait, the mother or caregiver will be informed and asked to retrieve their child as soon as possible. All information will be documented in their health file.

Refusal to pay fee:

Numerous community needs assessment participants pointed to the fact that some mothers may bring their children, but would be unable to pay. This is a vital concern to address. This is one of the major drivers of the escalating fee program for new clients. To ensure mothers pay the childcare fee must be paid in in the morning when the child is dropped off. Multiple pay schedules will be available for caregivers to allow flexibility in their payment schedule. However vital to each option is the requirement that they pay the fee before they use the services. Therefore if a mother or other caregiver cannot pay, they will be unable to use the services. It has been stated by multiple local agents that mothers must pay some fee in order to use services, otherwise the services will not be valued and will only contribute to the dependency of mothers and their families.

Inadequate maternal employment:

If a mother is unable to pay due to inadequate employment, yet they still want to use KCCI's services, the childcare service support will not just immediately stop. With the goal of empowering the most vulnerable, KCCI will work with mothers who are unable to initially pay anything through employment training, referrals, and business start-up support. Women's employment is a challenge within Nairobi, despite its growing acceptance and availability. Therefore KCCI developed an economic empowerment initiative. This program facilitates maternal employment to ensure children's basic needs are met at their household level, as well ensures the ability of mothers and other caregivers to pay their childcare fees.

5.15 PARTNERS AND COLLABORATORS

Emory University Rollins School of Public Health: Provides business plan guidance and feedback, as well as data collection and analysis expertise.

Lea Toto: The Kenya Community Childcare Initiative was kicked off with the support of Lea Toto and their community health workers. They currently provide staff with business development, management training and implementation guidance. They are also providing all community marketing and outreach. Post-implementation Lea Toto will serve as a clinic referral site.

The Ministry of Gender, Children and Social Development: This Ministry promotes, coordinates, monitors and evaluates social support programs for children in Kenya. When the community needs assessment results were reported to the local council of this Ministry, they jumped on board to provide support. They have agreed to provide training and continual small-scale human capacity support of outreach projects.

Nyumbani: Nyumbani passionately supports this project. They are providing guidance for the program's initiation. Provides space for training events and community education sessions. Post-implementation Nyumbani will provide nutrition support and resources.

Upendo Children's Home: Provides social work training to the KCCI staff. They also are a referral center for children who are abandoned and brought to KCCI.

Clinton Global Initiative University: The Clinton Global Iniatiative University is a summit engaging students aiming to solve global problems with specific commitments. The Clinton Global Initiative University engages the next generation of leaders around the world. This program is offering KCCI technical assistance and mentoring support.

Global Engagement Summit: The Global Engagement Summit (GES) is an empowerment platform for projects changing the world. GES has sponsored KCCI to attend and present their work to global health leaders. They provide technical advisement, funding, and implementation support.

CKellyDesign: CKellyDeisgn is a graphic and web design firm. They provide technical skills for logo design, web development, infographic creation, and much more.

Small-scale personal donors: Friends, family, and our social network of support have made a total contribution of $1,000.

Changemakers: Changemakers is a fellowship that funds innovative projects solving global issues. KCCI is currently under review for the Ashoka Changemakers fellowship.

Concern Worldwide: Concern Worldwide is an NGO working with the world's poorest to transform their lives. They are a close partner with the Lea Toto organization, providing them nutrition support. Previous meetings held with Sheela Bowler and Lea Toto Director has resulted in collaboration with KCCI. We are pursuing a partnership in which Concern Worldwide will

gain access to hard to reach impoverished children through our program, with them providing nutrition and micronutrient supplementation to attending children.

Rotary Global Grant: The Rotary Global Grant is sponsoring young leaders in tackling global service projects. Sheela Bowler is pending being sponsored to return to Kenya to work on the Kenya Community Childcare Initiative. This funding is for a Masters degree program in early childhood studies and personal funding to undertake this service project.

5.16 BUDGET

TABLE 21: Programmatic Inputs Budget in USD

SECTOR	INPUT	COST	TOTAL
EQUIPMENT	Reporting forms	200	**2,560**
	First-aid supplies (bandages, cleaning agent, antibiotic cream)	300	
	Basic medical equipment (stethoscope, thermometer)	10	
	Scale & Measuring tape	50	
	Social enterprise activity	1,000	
	Caregivers income-generation activity support (optional)	1,000	
MATERIALS AND SUPPLIES	Mattresses (8)	250	**2,260**
	Bed (8)	400	
	Bedding (8)	100	
	Chairs (15)	100	
	Toys	200	
	Child toilet	30	
	Early childhood education materials	250	
	Reusable Diapers (60)	50	
	Childcare resources (lotion, powder, bottles)	100	
	Washing basins (6)	50	
	Soap	300	
	Clothes pins (100)	10	
	Eating utensils (cups, bowls, plate, fork, etc.)	200	
	De-worming medication	120	
	Rugs / playmats (6)	100	
FACILITIES	Childcare Center	3,000	**5,560**
	Registration	60	
	Security	500	
	Food and Nutrition	2,000	
COMMUNICATIONS	Photocopying	50	**1,000**
	Cell Phone airtime	300	
	Printing	50	
	Promotional materials	200	
	Filing System	200	
	Internet	200	
		TOTAL	**11,380**

TABLE 22: Annual Staffing Budget in USD

#	POSITION	% EFFORT	CALENDAR MONTHS	MONTHLY SALARY	YEARLY TOTAL
1	Program Director	100%	12	600	6,000
3	Community Health Workers	75%	12	125	1,500
1	Community Teacher	100%	12	125	1,500
2	Community Caregiver	100%	12	100	1,200
1	Site Manager	100%	12	150	1,800
1	Cook / Nutritionist	100%	12	125	1,500
1	Security Guard	100%	12	100	1,200
				TOTAL	**14,700**

TABLE 23: Program Training Budget in USD				
AUDIENCE	**TOPIC**	**DAILY RATE**	**# OF DAYS**	**TOTAL**
STAFF	Childcare management / Rules and Regulations	50	1	50
	Reporting and Filing Practices	50	1	50
	Quality childcare practices	50	1	50
	Children's Rights, child neglect and abuse	50	1	50
	Children and family counseling / psychosocial issues	50	1	50
	Under-5 Nutrition	50	2	100
	Basic Nursing Skills	50	2	100
	Under-5 Health and hygiene	50	2	100
	Community Integrated Management of Childhood Illness	50	2	100
	Early childhood education	50	2	100
	Special Needs Children	50	1	50
	Business Management	50	2	100
	Social enterprise training	50	2	100
COMMUNITY	Child health, nutrition, and development training (optional)	50	6	500
	Income generating activity training (optional)	100	6	1000
			TOTAL	**2,500**

Overview:

The resources required to implement the childcare centers and caregiver empowerment programs are few. After initial resources are purchased, limited materials are necessary once the main inputs are put in place. Further with the implementation of the income generating activities for the childcare center, all continuously needed resources will be purchased with these funds. Additionally the Kenya Ministry of Gender, Children, and Social Development, as well as Concern Worldwide will provide continuous small-scale support in country for social services and nutrition respectively. Despite this, the initial start-up cost for each childcare facility reaches a total of $19,980 (not including the Program Director salary which is to be shared amongst all childcare centers).

Staff:

The Program Director will manage all KCCI activities, childcare centers, and organization wide strategy. This position will directly coordinate implementation, management, and monitoring and evaluation for the program. As such the position is full-time for 12 person months. The salary of $600 per month is equivalent to Nairobi standards for the equivalent position. This salary will be paid for by all childcare centers under KCCI.

Each childcare center will also have a Site Manager. The Site Manager will also be a local resident (CHW or teacher), and coordinate site level activities. This position will report directly to the Program Director. They will be in charge of their respective sites, and coordinate meetings, activities, and manage staff. Their remuneration reflects the standard pay for equivalent positions in the region. The salary of $150 per month is equivalent to Nairobi standards for the equivalent position.

KCCI will also employ community health workers (CHWs) who will serve in the role of Childcare Center Caretakers. CHWs are incredibly dedicated advocates for the health of their communities. All CHWs have extensive training in child health, HIV, nutrition, and health services. Each community health worker has worked in his or her informal settlement community for at least five years. They know the community, the needs, and the demand that exists. Without their local knowledge, community trust, and dedication to the improvement of children's health, KCCI would be lost. Community health workers are the backbone of the Kenya Community Childcare Initiative. Each center will employ three community health workers at 75% time. This results in a total of 9 person months per year. Based on community

needs assessment results, and on-the-ground salary research, the CHWs will receive $125 per month. This is based on a $6 per day rate, equivalent to the local CDC wage for CHWs.

Furthermore each childcare center will have a cook/nutritionist. This position will manage the lunch and snacks provided for the center. They will ensure each meal is balanced, healthy, and safe. Furthermore, this position will also be in charge of monitoring the nutritional status of children, and assessing their needs. This will include weighing, measuring height, and verifying MUAC scores. In response to individual needs, they will coordinate treatment sequences, and follow-up with vulnerable children. The person in this position will be working at 100% time for 6 person months per year. The monthly salary of $125 is indicative of local wages.

Additionally hired from local residents are Early Childhood Teachers and Community Caregivers. KCCI will employ two Community Caregivers and one Early Childhood Teacher for each childcare sites. Each position will work full-time for 12 person months per year. Their remuneration of $125 and $100 respectively reflects the standard pay for equivalent positions in the region.

Each center will also require a Security Guard. The Security Guard will verify the safety and security of the sites. This position is full-time for 12 person months per year. The monthly salary of $100 is standard for an equivalent position in this region.

Training:

Training of both childcare center staff and child caregivers (i.e. mothers, aunts, grandmothers) will be conducted. All the space, instructor, and curriculum needs have been met, however printing, paper, and food must be provided. Therefore there will be limited resources needed to implement these trainings. As such each community health worker and other staff training will require $50 for implementation.

Additionally community education and training sessions will be conducted for increased child health, nutrition, and development awareness. These trainings will occur every other month, and cost KCCI a total of $50 for snacks and materials. Community income generating activity trainings for caregivers will require more inputs. As these trainings still require food and printed materials for implementation, there are additional needs for materials and resources to conduct the training. This is because KCCI community trainings are hands-on models to train local women in small-scale income generating activities (IGA). For example the IGA trainings may include chicken rearing, community gardening, soap-making, crafting, and more. In result each training session has a daily cost of $100 to operate. These trainings will be provided every other month.

Equipment:

The equipment listed is absolutely necessary for the childcare center implementation. These items require initial purchasing, but in the long-run do not have high consistent costs. These items include the reporting forms, basic medical equipment such as a thermometer, stethoscope, weight scale, and a measuring tape for growth monitoring. The total cost for KCCI equipment is

$2,560 when including the optional caregiver income generating activity support, or $1,560 without. One-thousand dollars of this cost is to implement the social enterprise activity for the childcare facility, and will eventually cover the original cost with expected profits.

Materials and supplies:

Additionally specific materials and supplies are needed for the childcare center and community outreach activities. This includes the basic necessities such as beds for children's naps, which also requires mattresses and bedding. Simple things such as chairs, rugs and play mats, washing basins, as well as child toilets will be required to sustain a healthy environment for children. Additionally included toys for child stimulation will be purchased, as well as early childhood education and development activities curriculum. The total cost for these inputs is $2,260. While this number may seem high for one childcare center, these activities will then be used for years to come and do not require yearly re-purchasing.

Facilities:

The most important aspect of implementing a childcare center, is the actual facility to create appropriate space. This will be a consistent cost for the program in renting the building. The $3,000 yearly rent reflects the expected cost based on current market rent rates in the informal settlements of Nairobi. Additionally required is security. While the staff member in charge of security is listed above, there is also the need to reinforce the security of the site. This requires a fence, with a gate, and strong locking mechanism. Above the fence there must be additional security, i.e. barbed wire or locally relevant broken glass. Therefore in order to implement these measures, $500 has been allocated to security. The informal settlements lack security, and it is

essential that the childcare centers boast safety and security for all children. Therefore this piece is vital to the program's implementation.

Communication:

In order to implement the KCCI program, community outreach will be essential. In order to reach the community to mobilize their involvement in the project there is a need for mobile phone contact, printed materials, and t-shirts to identify KCCI staff within the community. Thus there are costs associated with copying, printing, mobile phone airtime, and internet air time. Additionally internet airtime will be purchased for the program coordinator to maintain consistent contact with partners in the United States. The total cost for all communication efforts is $1,000. These costs are ongoing and will be required yearly.

Revenue plan:

Table 24: Childcare Fee Revenue

8 infants	8 USD	**$16,848 yearly**
20 toddlers	22 USD	
20 pre-school	24 USD	
TOTAL	**54 USD Daily**	

Table 25: KCCI start-up vs. recurrent costs

Start-up costs year one	$26,380	Covered by grant funding
Recurrent Costs	$17,200	**$352 yearly differential** ($3,352 when Program Director begins with 1 site expansion) To be covered by social enterprise activities
Staffing	$8,700	
Facilities	$3,000	
Supplies	$500	
Food & Nutrition	$2,000	
Community education	$500	
Caregiver empowerment	$2,000	
Miscellaneous	$500	
TOTAL	**$17,200**	

This section details the comparative revenue from childcare fees, and the yearly costs of KCCI's programs.

Overall there is a $352 discrepancy between yearly cost of the program and the fees from caregivers. Therefore the social enterprise activities will be implemented to meet this cost

difference, as well as Kenyan government support for special projects. However it is vital to note that this is not including the salary for the Program Director, which will only be necessary when the program expands beyond one site and will be divided between all the implemented sites. Therefore this differential is expected to increase. For example with the implementation of two sites and therefore shared cost of Program Director, KCCI sites will have a monthly differential of $3,352 which would be channeled into improving and expanding programs. With two additional sites the differential will be $2,352, etc. As such social enterprise activities will be scaled-up when program expansion begins to cover the Program Director cost. Find the breakdown of costs and revenue in Tables 24 and 25 above.

CHAPTER SIX: IMPLEMENTATION CONCLUSIONS

6.1 NEED AND DEMAND

Women and children are increasingly migrating to Nairobi, seeking employment in result of shifting societal norms. The social atmosphere within the informal settlements now embraces women and children as local residents. Despite the changing cultural norms, services for children have not been introduced or expanded to reach this vulnerable population. Health services have a limited pediatric capacity, and very few government schools exist within these settlements. The attendance of children 0–5 years of age are infrequently enrolled in any form of organized early care or learning. In result women must navigate the interplay between maternal employment and childcare.

Quality childcare and early education provides children with the basic cognitive and language skills they need for school, while also fostering social competency and emotional development. Despite this reality international reports and competitor analysis results state that no formal childcare exists in Nairobi's informal settlements for children <3 years. For children 3-5 years of age who are not enrolled in early education, limited childcare services exist as well. This challenges maternal employment and siblings' school enrollment. Published literature and community needs assessment results elucidate the need for childcare, health, and development services to ensure the daily care and protection of young children.

A child's first five years of life are critical to their cognitive, social, emotional and physical development. Life events and circumstances within this timeframe impact life-long health and social outcomes. In Nairobi's informal settlements over half the children suffer from stunted development, resulting from disproportionately high malnutrition, low immunization, dangerous physical environments, and inadequate stimulation. As healthy children are more likely to become economically productive adults, healthy early years build a strong system of human capital. Therefore services supporting children and families within the informal settlement communities are essential.

6.2 THE INTERVENTION

It is undeniable that there are complex interconnections between child health, nutrition and development, as well as the economic stability of families. Therefore, the Kenya Community Childcare Initiative adopts a holistic model of targeting nutrition, child development, child rights and protection, health, and economic strengthening. The Kenya Community Childcare Initiative (KCCI) fosters holistic development for children aged six-months to five-years in Nairobi's informal settlements through community-driven childcare centers. Simultaneously caregivers are empowered to work and sustain their families' livelihoods, while also improving sibling girls' school attendance.

These early childcare services are subsequently paired with economic empowerment for childrens' mothers or other caregivers to ensure healthy households. Economic empowerment activities train and provide capital for small business start-up, and/or support job-training

activities. The combination of holistic childcare and enabling sufficient household income provides comprehensive child health and development support.

The Kenya Community Childcare Initiative implements an innovative response to the growing challenges of children and their families within Nairobi's informal settlements. Overall KCCI uses a community-driven and sustainable mission to motivate and leverage success. With community members directly involved in the program assessment and development, community ownership and leadership is the driving force of KCCI.

6.3 MOVING FORWARD

Funding:

With the establishment of the program plan and on the ground training in Kawangware, it is essential that KCCI obtain funding for start-up costs. While there is initial capital needed, the social enterprise activities and childcare fees will ensure self-sustainment in three-years. To obtain funding, U.S. partners are developing grant proposals (Appendix III), in addition to Kenyan counterparts. Grant funding will be expected to reach $60,000 total for a three-year period. Currently KCCI has submitted funding proposals to the following ten agencies: Clinton Global Initiative, Global Fund for Children, Echoing Green, Ashoka Changemakers, Global Engagement Summit, Rotary International, Fulbright, Social Resolution Challenge, The Rolex Young Laureates, and the Dell Social Innovation Challenge. Find the Dell Social Innovation Challenge and Global Fund for Children grant proposals in the Appendices (Appendices IV & V).

Pilot:

The program will pilot in the Kawangware informal settlement. Piloting in Kawangware stems from the fully conducted community needs assessment, resulting in the recruitment of ten community health workers. Currently the CHWs receive training in various childcare, health, and business subjects monthly, with weekly planning meetings. Implementation will begin the summer of 2013. Previous to implementation the monitoring and evaluation indicators must be measured to gain a baseline for program assessment. Continuous and rigorous monitoring and evaluation must occur in the earliest stages of the program. With the innovative nature of the model in Kawangware, it is essential to verify effectiveness and adjust the program as needed. As communities shift and new opportunities and challenges are identified, the program must adapt and grow to have a greater impact. These changes must come from the community itself.

Continued needs assessments:

With the diversity of Nairobi's informal settlements, each will have varying childcare needs as made evident by the distinctions between Kawangware, Kibera, and Kariobangi. Therefore additional needs assessments will be conducted to greater define and respond to those individual needs. Revisions to the methodology will be made for each community, with tools being adapted from the pilot assessment and influenced by local leaders and community members. Furthermore as the program contemplates expansion beyond the informal settlements, comprehensive community needs assessments must be conducted, and strategic revisions to the program plan presented here must be made.

Partnerships:

Collaboration offers the opportunity to connect with previously established and trusted organizations that may facilitate program development. Therefore KCCI will continue to develop partnerships with local agencies to increase impact. Targeted in particular will be local clinics in which linkage and referral systems are to be developed. The partnerships will ensure attending children receive immediate and quality care. Additionally KCCI and clinics will work together to offer child health and nutrition community education. School partnerships are essential to support older children in their transition from early childcare to primary school. Linkages, as well as enrollment support and confirmation will facilitate age-appropriate primary school enrollment and attendance.

Partnerships with local community-based organizations supporting children and families will also be vital. In recent years community-based organizations fight for funding, and KCCI strives to build a network of facilitating agencies. Leveraging the diversity in local services will further support the community through holistic support for families. In particular KCCI will partner with community organizations involved in income generating activities (IGAs) and social entrepreneurship for economic support of caregivers. KCCI would provide safe and healthy childcare, while IGA projects would facilitate economic empowerment.

Scale-up:

A unique quality of KCCI is its ability to be scaled up and replicated in other areas facing similar social issues. As awareness and demand for KCCI's services increase, this model can be expanded to target more informal settlement residents, as well as other geographic locations and

populations. The economic, social, and health issues that KCCI addresses are most assuredly burdens in other areas of Kenya as well, and can be expanded to become central to the government's early childhood education policy. Ultimately KCCI aspires to serve as an advocate for replication in other sub-Saharan African countries.

6.4 CONCLUSION

This special studies project covered a wide-array of information from research, program evaluations, multilateral organization reports, and primary data. All sources influence the development of the program plan for community childcare services in Nairobi's informal settlements. Solid evidence supports the Kenya Community Childcare Initiative's programmatic focus, however clear limitations apply. Funding challenges, maternal employment security, and the innovative community-driven and sustainable approach leaves uncertainties. Therefore the single pilot project in Kawangware will display the impact of such a model, advocating for replication, adaptation, scale-up, or even discontinuation. Despite this risk, the opportunity is vast while requiring limited inputs. Therefore the program has local organization and community support with immense promise for the future.

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APPENDICES: ADDITIONAL RESOURCES

APPENDIX I: Competitor Analysis of Early Childhood Centers in Kawangware

KAWANGWARE COMMUNITY FORMAL DAYCARE COMPETITOR ANALYSIS								
Sub-Location	**Facility Name**	**Registered**	**Staff-Child Ratio**	**Cost**	**Manager**	**Lunch Provided**	**Snacks Provided**	**Services Provided**
Gatina	Merryland Centre and Daycare	Yes	1 : 20	350/month	Private Individual	None	None	Supervision
Gatina	Keds Care Community School	Yes	1 : 47	70/day	School, CBO	None	None	Supervision
Gatina	Muguam Education Centre	Yes	1 : 25	900/month	School	Rice, beans, ugali, vegetables	None	Supervision, Early childhood education
Gatina	Nazarene Church Nursery School	Yes	1 : 27	500/month	School, Church	Uji	None	Supervision, Early childhood education
Gatina	Sky Life School	Yes	1 : 18	500/month	School	Rice, beans, ugali	Mandazi	Supervision, Early childhood education
Gatina	Full Gospel Church of Kenya	Yes	1 : 30	400/month	Church	Uji	None	Supervision, Washing clothes, Diapers changed, Early childhood education
Kawangware	N/A	No	1 : 40	900/month	Private Individual	None	None	Supervision
Kawangware	Joyremuna Academy	No	1 : 15	50/day	School	None	None	Supervision
Kawangware	Grace Daycare	No	1 : 10	50/day	Private Individual	Uji	None	Supervision
Kawangware	Gemy Smiles Baby Center	Yes	1 : 7	50/day	Private Individual	Rice, beans, ugali	None	Supervision
Kawangware	N/A	No	1 : 30	50/day	Private Individual	Rice, beans, ugali	None	Supervision, Diapers changed
Kawangware	Amani Daycare	No	1 : 10	50 or 70/day (depends on age)	Private company	Uji, milk, bananas, Weetabix	Candy	Supervision, Diapers provided, Diapers changed
Kawangware	Norlin's Care Centre	Yes	1 : 20	50/day	CBO	None	None	Supervision, Early childhood education

Kawangware	Good News Academy	Yes	1 : 50	400/month	School, CBO	Rice, beans, ugali	None	Supervision, Early childhood education
Kawangware	Cross Road Care	Yes	1 : 40	600/month	Private Individual	Rice, beans, ugali	Juice, chips	Supervision, Diapers provided, Diapers changed, Early childhood education
Kawangware	Faith Junior	Yes	1 : 8	50/day	Private Individual	Rice, beans, ugali	Mandazi, uji	Supervision, Washing clothes, Diapers provided, Diapers changed, Early childhood education
Kawangware	Upendo Children Centre	No	1 : 13	50/day	Private Individual	Rice, beans, ugali, meat, fruit	Mandazi, mayai (eggs), tea	Supervision
Riruta	Al-Mumiaz Lil Baby Care	Yes	1 : 7	80/day	School	Rice, beans, ugali	Uji	Supervision, Diapers changed
Riruta	Mama Kids Community Center	Yes	1 : 15	Daycare 50/day, pre-school 400/month	CBO	Rice, beans, ugali	None	Supervision, Early childhood education
Riruta	East Gate Junior Centre	Yes	1 : 10	Daycare 50/day, pre-school 500/month	CBO	Rice, beans, ugali	Beans	Supervision, Early childhood education
Riruta	Kenya Redeemed Vision Center	Yes	1 : 10	700/month	Church	Rice, beans, ugali	None	Supervision, Washing clothes, Diapers changed, Early childhood education
Riruta	Rosas School	Yes	1 : 10	50/day	School	Rice, beans, ugali	Mandazi	Supervision, Diapers changed, Medical care
Riruta	Good Hope School	Yes	1 : 25	50/day	School	Rice, beans, ugali	Uji	Supervision, Diapers changed, Early childhood education, Medical care

APPENDIX II: Global Childcare Model Evaluation Table

CHILDCARE MODELS USED THROUGHOUT THE DEVELOPING WORLD, WITH AN EMPHASIS ON SUB-SAHARAN AFRICA										
Program Focus	**Program Title**	**Location**	**Urban/Rural**	**Model**	**Target Population**	**Objectives**	**Services**	**Impact**	**Challenges**	**Source**
Daycare	Women's Association Community	Ghana	Urban	This program provides daycare services for urban working mothers, with the provision of meals and snacks.	Unknown	To provide childcare to ensure young children's safety while their mothers work, and prevent malnutrition through the provision of meals.	- Daycare provision	- Strong cooperation between the community and government agencies - Well trained staff - Government financial support	- Smallscale	1
	Day Care Centres	Senegal	Rural	A community initiated and participatory daycare, with agency and donor support.	Children 1-5 years	Provide safe space for young children whose parents are working.	- Daycare provision - Adult education	- Increased women's employment and income - No impact on nutrition, health, or growth.	- Smallscale - Fees too high for poor - Services were seasonal	1
	Community Day Care Centers	Guatemala	Urban slums	Nontraditional child care alternative. Parents select a woman from the neighborhood and make her the care provider. She provides care, hygiene, and food to up to 10 children.	Children 0-7 years	To provide affordable and reliable extended hour care to support women.	- Daycare provision	- Increased women's employment and income - Appreciated by users/staff - Quality varies	- Needs child health - Involve family/ comm. - Expert caretakers - Inc caregiver training	3,4
	Homes of Well-Being	Colombia	Urban slums	Family home daycare centres run by community volunteers.	Children 3months - 5 years	Provide day care for children living in Colombia's slums to allow caregivers to work, and siblings attend school. Empower families economically.	- Daycare provision - Nutrition Services	- Positive effect on child growth, particularly poorest children - No effect on psychological development. - Often poor quality.	- Lack of involvement of parents in day care programme - Expectations of programme were too high.	5
Holistic Childcare	Multi-purpose Centres Project	Senegal		Centres care for young children and support mothers. They provide pre-primary education and respond to children's health and nutrition needs, as well as providing them adequate attention and emotional support.	Children 3-6 years	To provide health, early-learning and nutrition services for normal physical, mental and affective development; monitor children's health.	- Daycare provision - Support mothers	- Monitor children's health. - Provide mothers much needed respite and support.	- Limited resources.	2
	Petites Mamans Centres	Burkina Faso	Rural	Community-based holistic approach that uses trusted persons as caregivers. Communities work together to construct comprehensive Early Child Development Centres.	Children 3-5 years	To provide a holistic response with basic health, hygiene, and sanitation education using songs, poems, and picture stories.	- Daycare provision - Support mothers - Health Services	- Villagers could see the impact on their children and community. - Parents were free to work and older children were free to go to school.	- Limited resources.	2

	Chittagong Hill Tract Para Centres	Bangladesh	Rural	Serve children from pre-school to grade 2. When Early Child Development was introduced the caregiver was trained to work with younger children.	Children 4-6 years	To provide integrated child development education projects. UNICEF and World Food Programme provide nutritional support to children.	- Hygiene edu - Mapping/ plan for water/latrines. - Outreach for immunisation/ vit A - Parent training	- In 2005 served 44,400 children - Dec micronutrient deficiencies - Inc preschool enrollment - Inc immunization	- Sponsored by UNICEF and WFP	2
	Kushanda Preschools	Zimbabwe	Rural	Communities select and pay a teacher trained to run a community–built preschool. Kushanda provides training and follow–up support to establish the center (including stationery materials), nutrition supplements and adult nonformal education.	Children 3-5 years	Create a model for rural preschool centers. In order to achieve integration of health, nutrition and education support for holistic child development in Marondera, preschool teachers themselves were often farm health workers, making them a key resource and point of integration.	- School preparation - Enhanced ECD staff training - Parent training and skills - Health services - Nutrition services	- improved nutrition - Increased school preparedenss - Increased immunization	- Preschool teachers' salary - Government ECD provision undermines community willingness to take responsibility - Sustainability of nutritional supports in the absence of external provision -- especially in the neediest communities	2
	EPZ day–care	Mauritius EPZs	Urban	5 pilot industrial worksite day care centers run by local NGOs and sponsored by the EPZ Labor Welfare Fund, the Sugar Industry Labor Welfare Fund and the government offer health and nutrition support as well as full day child care.	Children 3months - 3 years	Provide day care for children from ages 3 months to 3 years and pilot a public–private partnership model for day care provision to test issues of cost and quality.	- Daycare provision	- improved nutrition - Increased school preparedenss - Decreased rate of childhood illness	- Difficult to build flexibility of center structure, schedules, staffing, activities and curriculum to meet the varied needs of the population - Quality/holism must be central	2
	Speak For The Child Programme	Kenya	Rural	Local women provided education and support in-home orphan visits. Training included health, nutrition, HIV/AIDS, and child development. Caregivers were told how to access services such as immunisation, health care, and income- generating activities. Preschool fees were paid.	Children <5 years	To support children under the age of 5 years who are affected by HIV/AIDS.	- Immunization - Preschool enrollment - Home visits by mentors - Caregiver support groups - income generation	- Effective in changing caregivers' behaviour and child outcomes - Children more likely to eat at least one meal a day, talked and played more, were less withdrawn - Improved health	- Did not provide childcare, which made it difficult for women to work.	2
	Mobile Creches	India	Rural	Community based childcare center with nutrition services.	Unknown	To allow caregivers to work, and improve malnutrition rates.	- Nutrition services - Parent training and skills - daycare provision	- Improved nutritional status - Good quality care - Comprehensive services.	- Smallscale - Mobility of target population - Funded by intl sponsors	6

Early Childhood Education	Kenya National Preschool Program	Kenya	Both	Train and support preschool teachers at the local level. Cooking demonstrations, learning materials production, workshops on the care and nutrition of children empower the community of parents and caregivers to become involved in its children's welfare.	Children 3-5 years	Develop a national preschool model to improve the welfare of young children.	- School preparation - Enhanced ECD worker training - Parent training and skills - Health services - Nutrition services	- Created a national framework for integrating preschool into Kenya's national education system. - Implementation often does not follow standards.	- Quality varies widely - Lack of coordination - Rather than intergation into public schools, centers became private - Standards are not commonly kept up	7
	Madrasa Preschools	India, Philiipines, Nigeria, Uganda	Both	Train community–appointed teachers for the Madrasas; and provide continuing supervision; train Local Management Committees for day–to–day operation of Madrasas, and build community awareness and preschool support.	Children 3-5 years	Establish and promote community Madrasa preschools to promote educational achievement through a cultural and religious values model.	- School preparation - Enhanced ECD staff training - Parent training and skills - Health services - Nutrition services	- Increased access to education for Muslim children.	- Limited political and administrative support - Poor educational quality	6
	Nigerian Dev't Comm.	Nigeria	Both	Build television production capacity to share integrated messages addressing social, physical, economic impacts on child development implemented by the NTA and partners at four pilot sites.	Children 3-5 years	Support ECD via production, dissemination, monitoring and evaluation of ECD materials through television and video.	- School preparation - Parent training and skills	- Increased knowledge within families regarding the benefits and activities for early childhood development. - The impact did not assess the implementation of any of the presented practices.	- Did not necessarily lead to increased services for children.	2
	Little Teachers	Botswana	Urban	Train primary teachers to pass lesson content and teaching methods of health, nutrition and child development knowledge and skills on to older children so they work effectively with preschool children.	Children 3-5 years	Create opportunity for preschool children to interact with primary school through activities implemented by older children. This built on cultural tradition of peer learning and used existing infrastructure of primary schools.	- School preparation - Enhanced ECD worker training	- Children who participated adapted to primary school more quickly - Improved comm/socialization - Primary school children do better scholastically	- Sustainable support for workshops either via government (Ministry of Education alteration of primary curriculum and teacher training) or other donations unavailable - Teacher incentive to continued participation	2

	Mobile War Trauma Team (MWTT)	Angola	Urban	Train professionals, community leaders and parents to: recognize psychological trauma in children; assist children in developing coping strategies; and cope with their own experience of violence.	Children 3-5 years	Help meet the psycho–social needs of war–traumatized children.	- Enhanced ECD worker training - Parent training and skills	- Improved the pyscholocial wellbeing of participating children.	- Many children were found to need support, but options were not always available.	2
Community Childcare Support	Community Integrated Manag. of Childhood Illness Programme	Malawi	Rural	Community groups came together to analyse their problems regarding health, nutrition, and development, and decide on actions to address these problems.	Orphans	To improve early chilhood rates of illness and poor health, while promoting health and holistic child development.	- Daycare provision - Community groups formed to target issues such as health, nutrition, and development	- Programme reached 1,179 villages in the 11 districts - Inc breastfeeding, disposal of faeces, and use of iodized salt. - Families more likely to respond when children talk/read books to children	- Low coverage - Community dialogue is an intensive process	2
	Credit with Education	Ghana, Mali, Burkina Faso	Rural	Train local institutions to provide ervices for women to increase incomes, and motivate adoption of supportive health, nutrition and child care behaviors.	Children 3-5 years	Address economic, organizational and informational sources of malnutrition that stunt children's development.	- Parent training and skills	- Women have more income and assets - Women's empowerment - Better-nourished and healthier children	- Does not Provide direct Services to children	1,2
	Mothers' Circles	Myanmar	Urban	Community driven project for children/caregivers <3 years in community homes providing health and nutrition guidance, vitamin supplementation, de-worming, toy-making and development training.	Children <3 years	To empower holistic early childhood development for children under three years of age.	- Parent training and skills - Health Services - Nutrition Services	- Children better nutrition, health and development - Reported to be more active, assertive and cognitively adavanced - Pronounced for children who entered malnourished	- It was a challenge to meet the needs of the poorest families	2

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APPENDIX III: Grant proposals submitted for KCCI funding

KCCI (through Sheela Bowler) has submitted funding proposals to the following:

1. Dell Social Innovation Challenge (Find proposal in Appendix IV)
2. Global Fund for Children (Find proposal in Appendix V)
3. Clinton Global Initiative
4. Echoing Green
5. Ashoka Changemakers
6. Global Engagement Summit
7. Rotary International
8. Fulbright
9. Social Resolution Challenge
10. The Rolex Young Laureates

APPENDIX IV: Grant proposal for the Dell Social Innovation Challenge

DELL SOCIAL INNOVATION CHALLENGE | ROADMAP TO SUCCESS

ABSTRACT | Children in Nairobi's slums face disproportionately high malnutrition and infection rates, low immunization, dangerous environments, and poor stimulation, causing stunted development for over 50% of resident children. Paralleling this issue is the lack of formal childcare or feeding programs for children under the age of three, with limited availability for three-to-five year olds. Therefore, due their childcare responsibilities, maternal employment and siblings' school enrollment suffers. In response a new independent organization has formed: the Kenya Community Childcare Initiative (KCCI). KCCI fosters holistic child development for children aged six-months to five-years in Nairobi's slums through the provision of community-driven childcare centers. KCCI ensures children's most vulnerable years are healthy via daily care, robust nutrition, medical services and early childhood education. Caregivers are subsequently enabled to work and sustain their families' livelihoods, while also improving siblings' school attendance. Overall KCCI addresses the lack of childcare services available, as well as responds to children's poor health and development in Nairobi's slums. To begin implementing KCCI services, start-up capital is required and therefore requested within this proposal. With initial funding, KCCI will become sustainable within three-years via income generating activities and childcare fees. Through the provision of KCCI's services, early childhood nutrition, health, and education will improve, while empowering their families for long-term economic success.

INNOVATION

The problem | UNICEF reports that there must be an increased global focus on early childhood care, as over 1/3 of children are developing poorly due to poverty. Children in Nairobi's slums are the unhealthiest nationwide, with over ½ suffering from stunted development. This results from disproportionately high malnutrition and infection rates, low immunization, unsafe environments, and inadequate stimulation. The occurrence of these conditions in a child's earliest years of life have lasting negative impacts.

The World Bank projects that half of Kenya's population will reside in urban areas by 2033, and by 2045 the urban population is expected to quadruple. Nairobi's urbanization is characterized by expensive formal sector rent, resulting in over 50% of the population residing in unplanned and under resourced slum settlements. Services are extremely limited within these environments, posing hardships to families. This population surge is also defined by a marked increase in female migration. UN Habitat states that women in Nairobi's slums bear the brunt of problems associated with slum life as they are expected to contribute to the economy, while also managing childrearing.

Children of employed mothers have improved health outcomes as more resources are channeled into food, shelter and education for children. However as women increasingly enter the workforce issues regarding childcare arise. Child neglect and reported deaths due to mothers' vacancy throughout their employment is a recurring problem. Further, numerous studies report that the presence of younger siblings (<5years) has a negative effect on older girls' school attendance due to their sibling care responsibilities while mothers work. Complex family stressors have undoubtedly ensued with the increased number of women entering the labor force, families with two working parents, a rise in the number of single mothers, and the demise of traditional systems of child care and extended family support systems.

Nairobi's slum settlements have extremely limited options for accessible and affordable childcare, with no services for children under the age of three years. Existing childcare centers for children 3-5 years are profit driven and characterized by inadequate care, unhygienic conditions and poor nutrition. Further this care has not reached the most vulnerable populations, namely impoverished slum-dwelling families. Limited childcare and services serve as a barrier to improving familial livelihoods, which continues the cycle of poverty disproportionately impacting women.

The slums of Nairobi are facing a childcare, health, and development crisis, yet simple cost-effective sustainable solutions can be implemented to solve this emergency. Therefore the Kenya Community Childcare Initiative (KCCI) was born. The Kenya Community Childcare Initiative is an innovative approach to new challenges for families, particularly within the slums of Nairobi. Lacking social support within this setting, mothers (and other caregivers) are often challenged between finding employment, sending their children to school, and providing childcare for their young children. KCCI refuses to allow this as a barrier to the livelihoods of families.

Our Solution | The Kenya Community Childcare Initiative (KCCI) promotes economic independence and healthy child development, empowering families through community-driven childcare centers, which provide protection, health, nutrition and education services to vulnerable children living in Nairobi's slums. Through the provision of these services, KCCI fosters holistic child development for children aged six months to five years. Community childcare centers will initially be implemented in six slum-settlements of Nairobi, with the plan to scale-up once sustainable . The Kenya Community Childcare Initiative is the first to bring this innovative model to sub-Saharan Africa, ensuring children's most vulnerable years are healthy.

Mission | To empower holistic community-based support of vulnerable children and their families throughout impoverished regions of Nairobi, Kenya.

Vision | Care for children. Foster families. Support communities.

Programs |

Community Childcare Centers | We offer children 6 months-5 years with safe, healthy and development-focused childcare. Facilities are community-driven and run by local community health workers (CHWs). In order to empower health homes, KCCI also provides community outreach and education. Services include:

- Safe and hygienic space for children to play
- Nutritious meals and snacks to prevent malnutrition
- Micronutrient supplementation for malnourished children (Iron, iodine, protein)
- Growth monitoring and support to ensure effective development
- Medical care and referrals (infection treatment, immunization, de-worming, etc.)
- Age-appropriate early childhood education for school preparedness
- Pre-school to primary school transition assistance
- Community child health and development training

Caregivers Empowerment | Children thrive most when they have a healthy home. Therefore our services empower self-sufficient positive economic opportunities for mothers through income generating activity training and start-up capital. We focus on locally relevant and sustainable employment avenues, such as small business management, chicken rearing, community gardening, and cultural arts and crafts. Each woman will be supported from training to business implementation.

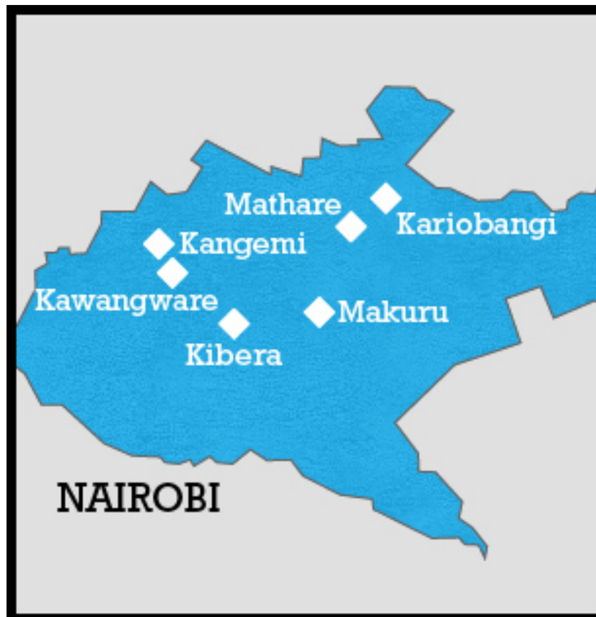
Objectives |

- Increase safe space for children, preventing abuse, poor health and neglect.
- Improve children's readiness to succeed in school and beyond.
- Improve the health and nutrition of vulnerable slum children.
- Increase siblings' school attendance.
- Increase maternal employment, particularly high-quality formal employment.
- Increase caregivers knowledge of education, health and nutrition.
- Increase community and private sector participation in the social development process.

WHERE WE WORK

The Kenya Community Childcare Initiative works in the capital of Kenya: Nairobi. In 2008 Nairobi's population reached 3.5 million. This is expected to reach nearly 5 million by the year 2020 and an astounding 6 million by 2025. The combination of rural to urban migration and the natural population increase produces an unprecedented rate of urban growth. Nairobi's urbanization is characterized by expensive formal sector rent, resulting in an estimated 60-71% of Nairobi's population living within informal settlements. Amnesty International reports that this translates to over two million people in Nairobi's slums alone. Despite this reality, Kenya's government has been historically reluctant to acknowledge the full scale of urbanization and urban poverty in the country.

The United Nations Human Settlements Programme defines a slum as, "*a contiguous settlement where the inhabitants are characterized as having inadequate housing and basic services. A slum is often not recognized and addressed by public authorities as an integral or equal part of the city*." Nairobi's slum settlements were once viewed as temporary, resulting in limited planning or infrastructure development, however this is no longer the reality. In result these regions lack basic services they need for health survival.



The Kenya Community Childcare Initiative specifically targets these slums, or informal settlements. In the initial stages, KCCI aims to provide services within six key informal settlements of Nairobi:

1. Kawangware
2. Kibera
3. Kariobongi
4. Kangemi
5. Mukuru
6. Mathare

SOCIAL IMPACT MANTRAS

WHAT WE IMPACT

There are complex interconnections between children's health, nutrition and development. In targeting only one of these aspects, the opportunity for synergistic interventions is lost. The five key intervention areas of the Kenya Community Childcare Initiative are: Nutrition, child development, child rights and protection, health, and economic strengthening. As children's survival, growth, and development are mutually reinforcing, it is essential that each of these aspects be provided. The five intervention areas are outlined below:

Nutrition | From 0-8 years, children's caloric and protein intake impacts their future cognitive functioning. Additionally within this timeframe, micronutrients play an essential role, particularly iodine and iron. Iodine and iron deficiencies have been associated as the leading cause of poor child developmental outcomes for young children. Throughout the birth to three years timeframe is when children are most vulnerable to permanent stunting effects and poor cognitive outcomes attributable to malnutrition. However while there is immense vulnerability at this time, there are nutrition support opportunities to provide long-lasting benefits. Studies display that throughout childhood, adolescence, and adulthood, the impact of robust early nutrition on child health and development is profound. Therefore KCCI provides nutritious meals and snacks to every child, in addition to micronutrient support for malnourished children.

Child Development | Research has shown that early childhood development services have the greatest impact on children from the poorest households. Early childhood development interventions have been shown to promote in physical, social, and cognitive development at a vital time for life-long success. Longitudinal studies report that the impact of early childhood education and activities starting at six-months has a immense positive on primary school enrollment and completion, as well as a lasting impact that increases the rate of secondary school achievement. Therefore KCCI incorporates early childhood development curriculum into childcare settings, as well training caregivers for home-based activities. Activities will be developed to address the social and cognitive functioning of attending children. These activities will be targeted to the specific age group and tailored to the local context.

Child Rights and Protection | Research has shown the significant effects of stress, abuse, grief and violence on young children, with negative impacts occurring throughout a child's lifetime. Neglected infants and young children (< three years) have a lesser ability to process nutrients, and acquire poor outcomes associated within health, academic learning, self-confidence, in addition to other physical and cognitive functioning. Within the slums of Nairobi children are often left alone as mothers work or do daily chores, and children are exposed to many dangers and stressors. As such it is vital to provide safe space for children to play and learn where they feel safe, nurtured, and stress-free. KCCI environments will reflect this principle, and security will be high.

Health | For young children diarrhea, anemia, respiratory infections, malaria, and malnutrition threaten their survival. In optimizing children's health, families require infection prevention, health care access, immunizations, and basic medical care provisions (i.e. de-worming, first-aid, infection control). Within urban regions there are numerous centers that either provide free or subsidized services, however much of the population is unaware of how to access such care. Furthermore after immunization, children often lack consistent interactions with healthcare providers. In result infections go untreated, such as eye, ear, and parasitic infections, which can inhibit

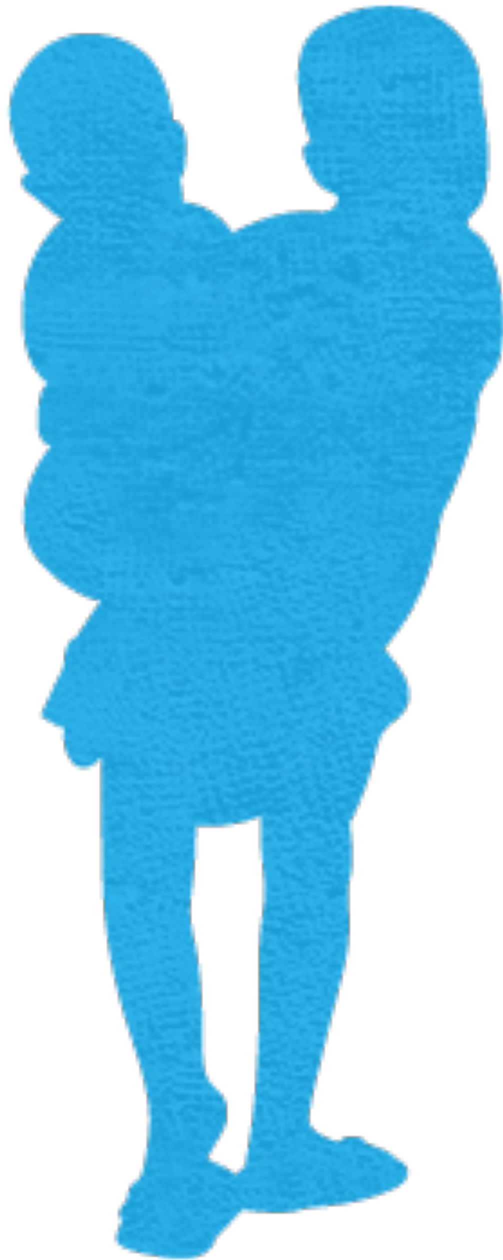
healthy child development. As such KCCI is addressing these issues through: linkages to health centers, providing space for clinic outreach programs (both educational and service-based), and verifying immunizations records of all attending children. Within this structure a referral system will be emplaced to ensure child health follow-up. Furthermore the provision of safe water treatment and storage vessels will reduce the incidence of waterborne diseases, as well as dehydration.

Economic Strengthening | Economic strengthening interventions have been displayed as vital to childcare programs. Without supporting the home to become self-sufficient, efforts made at the child level will have limited impact. Maternal employment is vital to develop flourishing livelihoods for families, and opportunities for women's employment in the developing world is often limited. Therefore KCCI provides income-generating activity training, business opportunities, and start-up capital support. Skills such as managing a business, financing, and marketing are taught through community education seminars for mothers. Profits from the businesses allow households to build the income needed to meet their family's needs. In result children accumulate positive physical and emotional wellbeing growth as more funds are provided for nutrition, health, and education.

WHO WE IMPACT

Young Children | A child's first five years boast the fastest period of brain growth. This stage creates a vulnerable time period where children are most susceptible and affected by illness, malnutrition, stress, lack of nurturing, and poor brain stimulation. According to extensive research, young children (<5 years) receive more positive impact through social support. Within this age group, the 0-36 months timeframe is referred to as the "critical window" of development vulnerabilities, but also profound opportunities. These opportunities have lasting impacts on children as they enter primary school, secondary school, and eventually adulthood. When investments are not made in these essential years, a tragic loss of human potential is occurring. Therefore the Kenya Community Childcare Initiative is intervening during this time period to provide life-long results for children.

Caregivers | Childcare is an unmet need throughout Nairobi. The interplay of female employment and family formation within Nairobi's informal settlements serves as a growing field of concern. In order to improve maternal employment, there must be affordable and accessible childcare services available. This is supported by numerous studies and international agencies, which declare available childcare is an essential facilitator for women to improve household livelihoods. The Kenya Community Childcare Initiative's services will benefit caregivers and their families immensely, through increased time, relieved stress, and higher income returns. Additionally caregivers will be provided with knowledge in the optimization of their children's health and development. Caregivers will be empowered with skills and activities to address the needs of their children.



Siblings | Access to early childhood care has immense benefits for siblings, particularly young girls. Early childhood interventions remove the task of childcare from older siblings, so that they can return to school. Numerous research studies have reported that the presence of younger siblings (<5 years) has a significant negative effect on older girls' school attendance due to their responsibility for sibling care while mothers work. Therefore the Kenya Community Childcare Initiative relieves this burden, empowering young girls to increase their school enrollment.

Families | Through the increased capacity of maternal employment, family's livelihoods will be improved. When mothers work, more resources are channeled into the health, shelter, education, and nutrition of children and their families. Therefore the Kenya Community Childcare Initiative will increase livelihoods and improve family-wide access to basic needs.

Community Health Workers | Community Health Workers (CHWs) within Nairobi's slums are volunteers. Despite working long hours in demanding and sometimes dangerous environments, the majority of international organizations do not pay them. CHWs therefore remain in poverty despite their immense contribution to the health of their communities. The Kenya Community Childcare Initiative is providing a profound employment opportunity for these dedicated women, and providing the opportunity for them to become an integral role in the decisions made for their community's social development.

The Informal Settlement Community | Successful cognitive and emotional development in a child's first five years translates into tangible economic returns. Nobel Laureate Heckman found that early interventions yield higher returns when compared with supportive services later in life, and they are more cost-effective. Focusing on holistic early childhood development regionally has positive outcomes that are proven to empower entire communities to thrive long-term. The Kenya Community Childcare Initiative will bolster community-wide support for improved early childhood health and development to promote long-term success.

ENVIRONMENT AND RESOURCES

The resources required to implement the childcare centers and caregiver empowerment programs are few. Find the complete list of needed resources below. After initial resources are purchased, very few materials are necessary once the main inputs are put in place. Further with the implementation of the income generating activities for the childcare center, all continuously needed resources will be purchased with these funds. Additionally the Kenya Ministry of Gender, Children, and Social Development, as well as Concern Worldwide will provide continuous small-scale support in country for social services and nutrition respectively.

REQUIRED INPUTS			
Materials and Supplies	**Medical and Nutrition Inputs**	**Childcare Resources**	**Communications & Facilities**
Mattresses	De-worming medication	Reusable Diapers	Printing
Beds	First-aid supplies	Baby powder	Cell Phone airtime
Bedding	Basic medical equipment	Baby lotion	Filing system
Chairs	Scale & Measuring tape	Baby bottles	Center rent
Early childhood education materials	Micronutrient supplements (iron, iodine, Vitamin A)	Soap	Promotional materials (flyers, t-shirts)
Toys	Utensils (cups, bowls, plate, forks)		Security
Child toilet	Chickens and chicken coup		
Rugs / playmats	Garden seeds and fertilizer		
Washing basins	WaterGuard and safe water vessel		

Training of both childcare center staff and child caregivers (i.e. mothers, aunts, grandmothers) will be conducted. Therefore there will be limited resources needed to implement these trainings. All the space, instructor, and curriculum needs have been met, however printing, paper, and food must be provided. Find the list of necessary trainings listed below:

TRAININGS TO BE CONDUCTED	
For KCCI Staff	**For Caregivers**
Child health and nutrition	Income Generating Activities
Childcare and support	Gardening
Early childhood development	Soap making
Business Management	Chicken rearing
Childcare Management	Business management

Sustainability Plan | The Kenya Community Childcare Initiative will be sustainable within three-years via income generating activities and (low) childcare fees from caregivers. Initially large costs are associated with implementing the facilities, however these will decrease when basic infrastructure is obtained. Funds to acquire the required resources will be obtained through fundraising and grant writing. Sheela Bowler and Bayle Conrad are conducting grant writing, in addition to local Kenyan staff on-the-ground.

DONORS AND INVESTORS

CURRENT

Rotary Global Grant | *Sponsoring young leaders in tackling global service projects*
Sheela Bowler is being sponsored to return to Kenya to work on the Kenya Community Childcare Initiative. This funding is for a Masters degree program in early childhood studies and personal funding to undertake this service project. This is a two-year grant beginning in August 2013.

Clinton Global Initiative University | *Summit engaging students solving global problems*
The Clinton Global Initiative University engages the next generation of leaders around the world. This program is offering KCCI technical assistance and mentoring support.

Global Engagement Summit | *Empowerment platform for projects changing the world*
GES has sponsored KCCI to attend and present their work to global health leaders. They provide technical advisement, funding, and implementation support.

CKellyDesign | *Graphic and web design firm*
Provide technical skills for logo design, web development, infographic creation, and much more.

Small-scale personal donors | *Friends, family, and our social network of support*
Total contributions to-date is $1,000.

PENDING

Changemakers | *Fellowship to fund innovative projects solving global issues*
KCCI is currently under review for the Ashoka Changemakers fellowship,which facilitates the new projects worldwide.

Concern Worldwide | *NGO working with the world's poorest to transform their lives*
Concern Worldwide is a close partner with the Lea Toto organization, providing them nutrition support. Previous meetings held with Sheela Bowler and Lea Toto Director has resulted in collaboration with KCCI. We are pursuing a partnership in which Concern Worldwide will gain access to hard to reach impoverished children through our program, with them providing nutrition and micronutrient supplementation to attending children.

PARTNERS AND COLLABORATIONS

Emory University Rollins School of Public Health | *Graduate school of public health*
Provides business plan guidance and feedback, as well as data collection and analysis expertise.

Lea Toto | *Home-based HIV care in Nairobi's slums*
The Kenya Community Childcare Initiative was kicked off with the support of Lea Toto and their community health workers. They currently provide staff with business development, management training and implementation guidance. They are also providing all community marketing and outreach. Post-implementation Lea Toto will serve as a clinic referral site.

The Ministry of Gender, Children and Social Development | *Government social support agency*
This Ministry promotes, coordinates, monitors and evaluates social support programs for children in Kenya. When the community needs assessment results were reported to the local council of this Ministry, they jumped on board to provide support. They have agreed to provide training and continual small-scale human capacity support of outreach projects.

Nyumbani | *Kenyan orphans and vulnerable children's home*
Nyumbani passionately supports this project. They are providing guidance for the program's initiation. Provides space for training events and community education sessions. Post-implementation Nyumbani will provide nutrition support and resources.

St. Paul's University | *Research and Training University in Kenya.*
Provides research guidance and assistance with the provision of training support.

Upendo Children's Home | *Orphanage within Kawangware slum*
Provides social work training to the KCCI staff. They also are a referral center for children who are abandoned and brought to KCCI.

SOCIAL IMPACT BASELINES AND MILESTONES

Current Status | The program will pilot in Kawangware due to the completion of a needs assessment and competitor analysis, spearheaded by Sheela Bowler and the Lea Toto community-based organization. KCCI has a cohort of community health workers who meet bi-weekly to develop implementation and management plans. Training curriculum has been developed and will be conducted by government ministries/NGOs beginning when funding is obtained. KCCI will then obtain space, procure supplies, and conduct outreach. CHWs will subsequently facilitate expansion (assessment, training, implementation) to other Nairobi informal settlement sites. A community needs assessment has been conducted in Kibera and Kariobongi. Community health workers will be recruited from 3 additional informal settlements: Kibera, Kariobongi, Kangemi, with the additional 3 informal settlements preparing for their community needs assessment.

KCCI'S Timeline of Success |

YEAR ONE – 2013

- Implementation of Kawangware, Kibera, Kariobongi childcare centers
- Caregiver early childhood education training and support groups implemented at each childcare center
- Increased safe space for children
- Improved child health and nutrition
- Maternal employment increased
- Siblings' school attendance improved

YEAR TWO – 2014

- Implementation of Kangemi, Mukuru, and Mathare childcare centers
- Childcare center-based income generating activities initiated (garden & poultry)
- Caregiver income generating activity and business management training conducted monthly at each center
- Community health workers lifted from poverty

YEAR THREE – 2015

- All childcare centers are self-sufficient from community garden, chicken rearing, and other locally relevant small-business projects
- Children's healthy physical, social & cognitive development
- Caregivers empowered to bolster the health and development of children

YEAR FOUR – 2016 and on…

- Continue the provision of quality holistic care to children attending KCCI centers in Nairobi's informal settlements
- Provide community outreach for increasing child health and development awareness and optimization efforts
- Scale-up the program to additional slum settlements and other parts of Kenya
- Serve as a holistic early childhood care model for sub-Saharan Africa
- Advocate on a policy level to shift support to early childhood care programs

Evaluating Success | Post-implementation (Months 12, 24, 36, etc.), KCCI will undergo yearly formative impact evaluations including a counterfactual, measuring the program outcomes listed above when compared to families within the community not using KCCI services.

Monitoring Success | To develop efficacious sustainable programs, measurable outcomes tracking program progress are essential. KCCI's success monitoring aims to improve the efficiency and effectiveness of our programs. This will help identify any challenges, as well as suggest possible solutions to problems.

KCCI has begun conducting pre-implementation (Months 0 – 6) monitoring and will continue to measure the following:

- Total funds raised
- Number of community-organization and government partnerships (including clinics and schools)
- Number of community health workers trained and employed
- Number of community mobilizations conducted to market the program locally

Throughout program implementation (Months 6 – 24), monitoring will be conducted to measure KCCI's progress with the following metrics:

Monitoring Impact on Children

- Rate of childhood illness and infections
- Number of children treated for minor illnesses and infections
- Number of children referred to local clinics
- Rate of childhood under nutrition (weight for age), stunting (height for age), and wasting (weight for age)
- Number of children receiving micronutrient supplementation
- Number of children recovering from malnutrition, anemia, and other mineral/vitamin deficiencies
- Motor and cognitive skills
- Age at primary school entry

Monitoring Impact on Caregivers

- Number of caregivers trained in child health and development
- Number of families enrolled in empowerment program
- Number of caregivers employed
- Number of caregivers transitioning from informal to formal employment

Monitoring Impact on the Community

- Siblings' school attendance
- Community reputation of the program

Monitoring Implementation

- Number of childcare centers implemented
- Number of children using services ages

ASSUMPTIONS AND GIVENS

Community Support | There is widespread community support for the project by community health workers, informal settlement health organizations, and top health officials in Nairobi, as well the caregivers themselves. Through this support, KCCI has received extensive guidance for program design and implementation. This community support is assumed to continue throughout the project.

Initial Funding | A major assumption of KCCI is the availability of initial funding in order to establish centers in the six targeted informal settlements of Nairobi. This is necessary in order to provide quality services to all clients. Without initial capital, KCCI will lack the resources to employ its interventions.

Participation by families | Formative research has shown that there is a great demand for KCCI services in several informal settlements of the city, and it is assumed that this demand will continue in all areas served. We have conducted a competitor analysis to see if any similar services are provided in Kawangware, and this will be conducted throughout the five remaining sites. This ensures that we are not duplicating efforts, but instead can leverage partnerships where possible and optimize services where they are needed most. The results show that if demand continues to remain, then the services will be used extensively by the families within these communities as our services are unique to the region.

Social Stability | Continue social stability in the informal settlements is vital to the creation of sustainable efforts by KCCI. Tribal conflict is unlikely, but within Kenya a pertinent cultural aspect to be aware of. Nairobi has seen limited instability within the informal settlements over the last five years, and this trend is expected to continue. However risk reduction and response strategies are being developed.

PROJECT OPERATING MODELS

National Support | Kenya is only one of two sub-Saharan African nations with an established early childhood education program. This policy was initiated in 1980, however has faced limited implementation, predominantly only existing within rural regions. Centers that have been employed have not followed standards, and quality of care is reportedly low. However what this does note is that Kenyans perceive early education as key to a successful life. With this commitment, KCCI is working within a supportive cultural, political, and economic atmosphere for early learning.

Community-based | Most organizations have limited local leadership and poor cultural competency, resulting in unsuccessful programs. KCCI is unique in facilitating community-driven sustainable projects. KCCI was born from the community itself, responding to the voices of the women who desperately desire this service. The employed community health workers live in the slums, know the families, and understand their needs. We embrace a participatory model where we are equal partners with the communities we serve. This builds knowledge and expertise in the community, while allowing them to own their futures.

Sustainable | The Kenya Community Childcare Initiative will be sustainable within two-years via income generating activities and (subsidized) childcare fees from caregivers. Income generating activities will include vegetable growing and selling, chicken rearing, craft production, and other small-scale business ventures. Initially large costs are associated with implementing the facilities, however these will decrease when basic infrastructure is obtained. The sustainability of KCCI is also confirmed by the political support from the Government. KCCI has already been encouraged to apply to national grants for child support. Nutrition and micronutrient supplementation will be provided by partner organizations, such as Concern Worldwide, Feed the Children, and USAID.

Holistic care | It is undeniable that there are complex interconnections between child health, nutrition and development. Achieving children's optimum development requires the basic needs of safety, nutrition, and health throughout their earliest years. However these basic requirements do not meet all of young children's needs, this must be accompanied by affection and nurturing care, in addition to informal and formal interactions. As children's survival, growth, and development are mutually reinforcing, it is essential that community health services incorporate each of these aspects into an early child service program. The five key intervention areas are: Nutrition, child development, child rights and protection, health, and economic strengthening.

Scalability | A unique quality of KCCI is its ability to be scaled up and replicated in other areas facing similar social issues. As awareness and demand for KCCI's services increase, this model can be expanded to target more informal settlement residents, as well as other geographic locations and populations. The economic, social, and health issues that KCCI addresses are most assuredly burdens in other areas of Kenya as well, and can be expanded to become central to the government's early childhood education policy. Ultimately KCCI aspires to serve as an advocate for replication in other sub-Saharan African countries as well.

PROJECT TEAM AND CORE EXPERTISE

Sheela Bowler, Founder & Volunteer Director of Program Development
Sheela is a Masters of Public Health student in Global Health at Emory University's Rollins School of Public Health, with a certificate in Maternal and Child Health. Sheela has a Bachelors of Arts in Public Health and African Studies from the University of Washington. For seven years she has been a dedicated advocate for vulnerable children with experience in Ghana, Uganda, Tanzania, and Kenya, in addition to domestic work with homeless children. Sheela passionately believes children should be provided with basic human rights, which she believes translates to effective community development.

"Through the Kenya Community Childcare Initiative's vision, I believe we can achieve profound sustainable positive change in the lives of these communities."

Bayle Conrad, Founder & Volunteer Program Development Associate
Bayle Conrad is a Masters of Public Health student in the Global Health department at the Rollins School of Public Health. Her trajectory into public health stemmed from a background in anthropology and critical development studies, as well as a strong passion for social justice. Bayle worked in the slums of Nairobi this summer and experienced first-hand the issues of the interplay between maternal employment and childcare. As so many global health projects focus on specific diseases without integrating broader health, Bayle's interest in this project came from its holistic, comprehensive approach to health, economic, and social issues that families in these conditions face.

"I truly believe our project has the capacity to change lives through a simple, community-based intervention, impacting those most vulnerable."

Stephen Koro, Volunteer Program Coordinator
Stephen is the Centre Director for Lea Toto Kawangware with a degree in Social Work. Stephen provides management to 15 staff, and over 30 community health workers. His efforts are focused on community development, and empowering those within their own local context to make change. Before becoming the Centre Director, Stephen was a social worker for Lea Toto Kibera. Without Stephen, KCCI would lack the expertise in community-driven sustainability. As a key volunteer, Stephen will continue to provide technical assistance, community-mobilization, and collaborative support through Lea Toto with funding obtained.

"Together we will make change, and see this project through. It will become a reality."

Peter Ndambuki, Volunteer Program Coordinator

Peter is a resourceful and dedicated social worker with Lea Toto in Kawangware. As a long-standing social worker throughout the organization, he has profound knowledge and expertise. Before working in Kawangware, Peter worked in the Kangemi informal settlement. With a degree in Social Work, his framework is focused on supporting the child as a whole, and ensuring holistic care. Peter and Sheela worked closely for three-months developing the program model and strategic objectives. The Kenya Community Childcare Initiative is lucky to have his continued dedicated efforts with funding obtained.

"Our community needs this program, it has the ability to transform their lives."

Shreeve Okara, Volunteer Program Assistant

Shreeve graduated with a Bachelors of Science in Social Work from Ndejje University. Shreeve began her career with the Kajiado North District Children's Office. Here she provided home-based social services to empower families to thrive together. Shreeve spent six-months with Lea Toto working within the slum settlements on home-based HIV care programs. Her talent is not only from immense intelligence and dedication to improving children's lives, but she truly believes in the power of the community. Currently Shreeve is a social work program manager at the Faraja Adventist Children's Home. She looks forward to implementing KCCI with any funding obtained.

"Walking in the slums, you can see children play in dangerous settings, or their siblings staying home from school to care for them. We can fix this, this does not need to occur."

Conor Kelly, Volunteer Director of Marketing & Media

Conor is a talented graphic designer. He obtained a Bachelors of Fine Arts from Seattle's Cornish College of the Arts. His design is clean, sharp, and carries a powerful message. When Conor realized the impact of design on people, he took the task of shaping that impact into a positive force. With experience in the corporate world with YP, inc. and Anderson Press, he has a business focused mind, however this skill does not shadow his passion for change. He has worked in Tanzania at an orphanage, and volunteers domestically with vulnerable children. His heart of gold makes him an immense asset to the team.

"I am excited to use my skills to support vulnerable children. KCCI offers the perfect opportunity."

Community Health Workers, Childcare Center Caregivers

Community health workers (CHWs) are incredibly dedicated advocates for the health of their communities. Sheela Bowler worked with the CHWs pictured here (as well as others) to conduct a community needs assessment led by them to understand the needs of young children within their community. When results were reported regarding the need for childcare services, seven key CHWs approached Sheela with the idea to kick-start such a program. They have worked together ever since.

All CHWs have extensive training in child health, HIV, nutrition, and health services. Each community health worker has worked in his or her informal settlement community for at least five years. They know the community, the needs, and the demand that exists. Without their local knowledge, community trust, and dedication to the improvement of children's health, KCCI would be lost. Community health workers are the backbone of the Kenya Community Childcare Initiative. Each community health worker has devoted countless unpaid hours to defining and developing KCCI in conjunction with Sheela and other staff.

Currently there are eight community health workers recruited to work within the Kawangware community. They are presently meeting to develop strategic plans and stay updated on the program progress. Additionally they receive trainings, such as business management, childcare, early childhood development, child nutrition and more. Recruitment has not been conducted within the Kibera and Kariobongi informal settlements, although CHWs have completed a community needs assessment.

INNOVATOR CAPACITY AND READINESS

Sheela Bowler and Bayle Conrad live for this project, and pour their hearts and souls into it daily. Starting a new program is not always easy, but their passion is enough to keep them going. They are both graduating with their Masters of Public Health in May 2013. Sheela Bowler has a pending two-year scholarship to attend Kenyatta University in Nairobi for Early Childhood Studies. Her scholarship would also provide personal funding for her to work on the Kenya Community Childcare Initiative on the ground for two years. Therefore Sheela plans on moving to Kenya in August 2013. Bayle Conrad will manage organizational support from the United States, coordinating non-profit registration, strategic planning, and donor relation management. Conor Kelly will provide continued support for marketing and media through his independent design firm. Together these three are a formidable force that will create change.

The local volunteers (to be staff if funded) are working diligently to prepare for program implementation once funding is obtained. Stephen Koro has worked with the local government and other organizations to create the training curriculum for community health workers. Peter Ndambuki and Stephen are conducting the trainings alongside other Lea Toto staff (nutritionists, healthcare providers, social workers, and teachers) to build a knowledgeable cohort of community health workers. Shreeve Okara is working with the Kawangware community health workers to empower the group to continue their efforts. The three of these phenomenal volunteers will leverage their expertise with the provision of start-up funding. We have additional supporters locally who are inspired to join our project, and we look forward to bringing them on board if we have the opportunity with funding.

Community health workers within Kawangware have proven their dedication to making the Kenya Community Childcare Initiative a reality. The CHWs consistently meet to coordinate their efforts, as well as participate in training sessions. These trainings are targeting key intervention areas to optimize pre-implementation preparedness. They have conducted the community needs assessment, a competitor analysis, and carried out local government grant proposals. They are ready to hit the ground running. Continued CHW recruitment throughout the additional five sites will occur post-funding.

APPENDIX V: Grant proposal for the Global Fund for Children

TITLE: Kenya Community Childcare Initiative: Providing young children in Nairobi's slums with holistic community driven care, health, and education services

AMOUNT: $66,000

FUNDING AGENCY: Global Fund for Children

ABSTRACT
Children in Nairobi's slums face disproportionately high malnutrition and infection rates, low immunization, dangerous environments, and poor stimulation, causing stunted development for over 50% of resident children. Paralleling this issue is the lack of formal childcare or feeding programs for children under the age of three, with limited availability for three-to-five year olds. Therefore, due their childcare responsibilities, maternal employment and siblings' school enrollment suffers. In response a new independent organization has formed: the Kenya Community Childcare Initiative (KCCI). KCCI fosters holistic child development for children aged six-months to five-years in Nairobi's slums through the provision of community-driven childcare centers. KCCI ensures children's most vulnerable years are healthy via daily care, robust nutrition, medical services and early childhood education. Caregivers are subsequently enabled to work and sustain their families' livelihoods, while also improving siblings' school attendance. Overall KCCI addresses the lack of childcare services available, as well as responds to children's poor health and development in Nairobi's slums. To begin implementing KCCI services, start-up capital is required and therefore requested within this proposal. With initial funding, KCCI will become sustainable within three-years via income generating activities and childcare fees. Through the provision of KCCI's services, early childhood nutrition, health, and education will improve, while empowering their families for long-term economic success.

INTRODUCTION
Nairobi's slum settlements have scarce resources for accessible and affordable childcare services. Existing facilities are profit driven and characterized by inadequate care, unhygienic conditions and poor nutrition. Limited childcare serves as a barrier to maternal employment and older sisters education attendance, continuing the cycle of poverty that disproportionately impacts women. Paralleling this issue is the poor health, nutrition, and development status of children residing in the urban informal settlements (slums) of Nairobi. The slums of Nairobi are facing a childcare, health and development crisis, and cost-effective sustainable solutions can be implemented to solve this emergency. Therefore the Kenya Community Childcare Initiative (KCCI), a new innovative organization was founded. KCCI embraces a holistic model of early child care, including nutrition, child development, child rights and protection, health, and economic strengthening services. KCCI aims to provide safe space for impoverished children, improving their health and development, while ultimately reducing rates of stunting. Simultaneously KCCI strives to enable mothers' employment and young girls school enrollment through relieving their daily childcare duties. The Kenya Community Childcare Initiative is the first to bring this innovative model to sub-Saharan Africa, serving as a vital advocacy tool for improved early childhood care amongst impoverished communities throughout the continent.

The Problem:
Imagine having to choose between caring for your child, or earning the income needed to feed him. This occurs daily for women in the slums of Nairobi, Kenya. As the country rapidly urbanizes, women moving to urban areas lose their social networks and have to manage childrearing alone, while also working to provide for their families. Nairobi's slum settlements have limited options for accessible and affordable childcare, with no services for children under the age of three [121]. In result women's employment is inhibited, disempowering them and hurting the livelihoods of their families.

Children of employed mothers have improved health outcomes as more resources are channeled into food, shelter and education for children. However, as women increasingly enter the workforce issues regarding childcare arise [122]. Child neglect and reported deaths due to mothers' vacancy throughout their employment is a recurring problem. Further, numerous studies report that the presence of younger siblings (<5years) has a negative effect on older girls' school attendance due to their sibling care responsibilities while mothers work [123].

Simultaneously over half of children residing in the slums of Nairobi suffer from severely stunted development. This results from disproportionately high malnutrition and infection rates, low immunization, unsafe environments, and inadequate stimulation within the slums [124]. The occurrence of these conditions in a child's earliest years have life-long negative impacts. Therefore UNICEF reports that there must be an increased global focus on early childhood care, as over one-third of children are developing poorly due to poverty [117]. Numerous programs in South America and Asia have been developed to respond to these challenges, for example the Guatemalan Daycare Project [13]. Providing holistic care for young children in the slums of Guatemala City, the package offers nutrition, health, and education, all within their childcare framework. The Guatemalan Daycare Project has expanded greatly after displaying immense benefits for the health and development of vulnerable children, and resulted in similar programs worldwide [14]. KCCI stems from this model, bringing the innovative approach to sub-Saharan Africa, particularly the urban informal settlements (slums) of Nairobi.

The slums of Nairobi are undoubtedly facing a childcare, health, and development crisis, yet simple cost-effective sustainable solutions can be implemented to solve this emergency. Therefore the Kenya Community Childcare Initiative (KCCI) was born. The Kenya Community Childcare Initiative refuses to allow these factors serve as barriers to the livelihoods of families and healthy development of children. At the same time KCCI's services respond to the health and development challenges plaguing young children in Nairobi's slums.

The Solution:
There are complex interconnections between children's health, nutrition and development. In targeting only one of these aspects, the opportunity for synergistic interventions is lost. Numerous childcare interventions worldwide have witnessed remarkable success in improving maternal employment and female siblings school enrollment through the provision of childcare. However these projects have identified their failure to address the health and development of attending children. The success of such comprehensive interventions has been piloted and evaluated by UNICEF, CARE, and Save the Children in various regions across South America and Asia, resulting in the development of minimum standards for early child care services in the developing world. The minimum services package requires that services address all basic needs of vulnerable children [25]. Therefore, the Kenya Community Childcare Initiative adopts the holistic model of targeting nutrition, child development, child rights and protection, health, and economic strengthening. As children's survival, growth, and development are mutually reinforcing, it is essential that each of these aspects be provided. Through the provision of these services, KCCI fosters holistic child development for children aged six months to five years. See the programmatic logic model to the right in Figure 1.

Early childcare services are paired with economic empowerment for children's mothers or other caregivers to ensure healthy households. The combination of holistic childcare services and enabling sufficient income to continue to meet children's basic needs within the home provides comprehensive child health and development support. Community childcare centers will initially be implemented in six slum-settlements of Nairobi, with the plan to scale-up once sustainable. The first site for implementation will be the Kawangware Informal Settlement. The Kenya Community Childcare Initiative is the first to bring this innovative model to sub-Saharan Africa, ensuring children's most

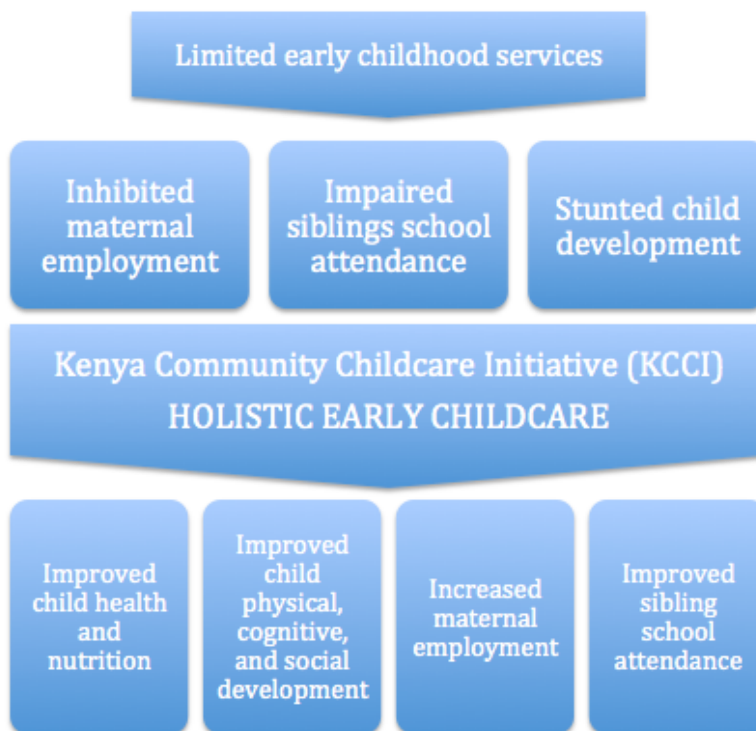


Figure 1: Kenya Community Childcare Logic Model

vulnerable years are healthy. This is done through the following programs:

Program Description:
Community Childcare Centers - We will offer children 6 months-5 years with safe, healthy and development-focused childcare. Facilities are community-driven and run by local community health workers (CHWs). In order to empower health homes, KCCI also provides community outreach and education. Services include:

- Safe and hygienic space for children to play
- Nutritious meals and snacks to prevent malnutrition
- Micronutrient supplementation for malnourished children (Iron, iodine, protein)
- Growth monitoring and support to ensure effective development
- Medical care via “health-checkups” and referrals (infections, immunization, deworming, etc.)
- Age-appropriate early childhood education for school preparedness
- Community child health and development training

Caregivers Empowerment - Children thrive most when they have a healthy home. Therefore our services empower self-sufficient positive economic opportunities for mothers through income generating activity training and start-up capital. We focus on locally relevant and sustainable employment avenues, such as small business management, chicken rearing, community gardening, and cultural arts and crafts. Each woman will be supported from training to business implementation.

Objectives:
KCCI’s overall goal is address the health and development needs of young children in Nairobi’s slums. In order to reach this goal, the objectives listed below were developed:

- By July 2013 ensure secure, hygienic, and supervised facilities providing care for children 6 mos to 5 years
- By December 2013 increase siblings’ school attendance by 75%
- By May 2014 increase maternal employment by 50%.
- By January 2015 improve attending children’s health, nutrition, and development outcomes by 75%

Organization:
Stemming from the community-based organization Lea Toto, the burgeoning organization Kenya Community Childcare Initiative has immense local support. With established relationships among local clinics, orphanages, and social support agencies, KCCI has a network of professionals dedicated to make this program a success. Further KCCI has extensive support from Kenya’s Ministry of Gender, Children and Social Development. They have agreed to provide training and continual small-scale human capacity and funding support. This local support ensures the sustainability of KCCI’s services. Furthermore the Program Founder and Director Sheela Bowler has received awards from the Clinton Global Initiative University, Global Engagement Summit, and Rotary International for KCCI’s innovation and community engagement. As a Masters of Public Health student in Global Health with years of experience in international vulnerable children programs, she has the skills and dedication to amass great change.

The childcare centers also boast a well-trained, dedicated, and community-trusted cohort of employees. All employees reside within the informal settlements themselves. This is essential to ensure they are trusted and supported by the community. The Program Coordinator, Peter Ndambuki (who also comes from the community), will conduct all staff recruitment. Peter is an experienced social worker within Kawangware, having served the children of this region through health program management for eight years. The size of the staffing cohort will depend on the childcare center capacity as strict guidelines of staff to child ratios will be maintained, and thus the number of staff will vary as the program expands.

Significance:
KCCI embraces a unique model displayed above in Figure 1 that facilitates comprehensive healthy child development: a simple solution to a complex problem. This approach has been absent in the informal settlements of Nairobi, and sub-Saharan Africa at large [121].Therefore, KCCI offers an innovative response to the childcare, health and development crisis. KCCI also embraces a unique participatory model in which they empower the communities they serve. KCCI was born from the community itself, responding to the voices of the mothers who desire this service. Through this model, KCCI believes they can achieve our vision and amass positive outcomes for young children, caregivers, siblings, families, and community health workers, as well as the informal settlement

community. Ultimately with the expansion of KCCI's holistic childcare services, the model will be used for replication into other impoverished regions of Kenya, and sub-Saharan Africa more broadly.

SETTING

The Kenya Community Childcare Initiative works in the capital of Kenya: Nairobi. In 2008 Nairobi's population reached 3.5 million. This is expected to reach nearly 5 million by the year 2020 and an astounding 6 million by 2025. The combination of rural to urban migration and the natural population increase produces an unprecedented rate of urban growth. Nairobi's urbanization is characterized by expensive formal sector rent, resulting in an estimated 60-71% of Nairobi's population living within informal settlements. Nairobi's slum settlements were once viewed as temporary, resulting in limited planning or infrastructure development, however this is no longer the reality. In result these regions lack basic services they need for health survival. The Kenya Community Childcare Initiative will pilot within the Kawangware informal settlement of Nairobi, with plans to initially expand to five additional informal settlements. The five informal settlements to be expanded to are: Kibera, Kariobongi, Kangemi, Mukuru, Mathare.

IMPLEMENTATION METHODS

The benefits of holistic childcare are immense and serve as the gold standard for childcare programs. Therefore KCCI implements a core set of five childcare modules as recommended by CARE, UNICEF, and USAID. When these components are combined, comprehensive care for children is provided and has the potential for increased positive outcomes. The specific modules of KCCI and their specific activities are presented below:

1. ***Providing Child Care and Protection:*** Provides safe space for children while mothers seek employment. Interventions include:
    a. Ensuring secure, hygienic, and supervised facilities providing care for children 6 mos to five years of age.
    b. Meet all basic needs of attending children in terms of food, safety, supervision, and overall child maintenance.
    c. Community education on children's rights and home-based protection.

2. ***Improving Child Health:*** Reduces childhood morbidity and mortality by improving case management and preventive skills of childcare center staff, as well as empowering communities and caregivers to improve child health practices. Interventions include:
    a. Improve health skills and knowledge of childcare center staff via healthcare professional training
    b. Community health workers conduct "health check-ups" for attending children every three months for 0.5 to <2 year olds, and every six months for 2 to 5 year olds
    c. Use the Community Integrated Management of Childhood Illness (C-IMCI) for child health assessments and monitoring
    d. Develop partnerships with local clinics for referrals and follow-up
    e. Ensure vaccinations for all attending children, providing a quick link to existing services
    f. Community education on child health

3. ***Improving Child Nutrition:*** Improves the nutritional status of attending children <5 years of age. Interventions include:
    a. Nutritious meals and snacks for all attending children
    b. Micronutrient supplementation with vitamin A, iron, iodine, and zinc, in addition to PlumpyNut
    c. Child growth monitoring (weight, height, MUAC) and promotion at the childcare centers through the use of "Growth Cards" (see example in appendix)
    d. Community education on child nutrition and growth monitoring

4. ***Improving Child Development:*** Enhances the quality of early childhood development and education for attending children. This will improve primary school enrollment, decrease grade repetition, and optimize life-long learning through an early intervention. Interventions include:
    a. Development and printing of early childhood curriculum materials
    b. Training of community pre-school teachers to provide early childhood education

   c. Implement early childhood activities for optimum child development, targeting specific age ranges
   d. Provide a referral system with local primary schools to provide transitional enrollment assistance
   e. Community education on child development optimization through home-based care and activities

5. ***Economic Empowerment:*** Improves the economic situation of young children's families, and in result improve the livelihoods of vulnerable children. Interventions include:
   a. Community education on business development and management
   b. Coordinate savings and loans support groups amongst caregivers
   c. Provide practical and job skills training for increased caregivers employment
   d. Provide employment obtainment guidance and support, as well as job referrals

TIMELINE

THREE-YEAR PROGRAM IMPLEMENTATION TIMELINE (2013 – 2015)			
YEAR	**MONTH**	**ACTIVITY**	**RESPONSIBLE STAFF**
2013	July	Implement the Kawangware childcare center	Program Coordinator and Site Supervisor
	July	Health and nutrition services implemented	Community Health Workers and Nutritionist
	August	Early childhood education implemented	Early Childhood Teacher
	October	Community trainings for child health and development	Site Supervisor to coordinate, all staff to lead
2014	January	Income generating activities implemented	Site Supervisor
	March	Caregiver income generating activity and business management training conducted monthly	Site Supervisor
	December	Kawangware childcare center becomes self-sufficient	Program Coordinator
2015	January	Serve as an early childhood care model for Africa through results dissemination	Program Director and Program Coordinator
	February	Policy advocacy to support early childhood development	Program Director
	March	Scale-up the program to additional urban informal settlements throughout sub-Saharan Africa	Program Director

Current Status: The program will pilot in Kawangware due to the completion of a needs assessment and competitor analysis, spearheaded by Sheela Bowler and the Lea Toto community-based organization. KCCI has a cohort of community health workers who meet bi-weekly to develop implementation and management plans. They are currently raising the funds for local government registration. Training curriculum has been developed and will be conducted by government ministries and NGOs beginning when funding is obtained. KCCI will then obtain space, procure supplies, and conduct outreach. CHWs will subsequently facilitate expansion (assessment, training, implementation) to other Nairobi informal settlement sites.

Scalability: A unique quality of KCCI is its ability to be scaled up and replicated in other areas facing similar social issues. As awareness and demand for KCCI's services increase, this model can be expanded to target more informal settlement residents, as well as other geographic locations and populations. The economic, social, and health issues that KCCI addresses are most assuredly burdens in other areas of Kenya as well, and can be expanded to become central to the government's early childhood education policy. Ultimately KCCI aspires to serve as an advocate for replication in other sub-Saharan African countries as well.

IMPACT

The Kenya Community Childcare Initiative implements an innovative response to the growing challenges of children and their families within Nairobi's informal settlements. This response not only targets children, but their

mothers, siblings, the livelihoods of their families, local community health workers, and the informal settlement at large. The expected impact is detailed below:

Young Children: A child's first five years boast the fastest period of brain growth. This stage creates a vulnerable period where children are most susceptible and affected by illness, malnutrition, stress, lack of nurturing, and poor stimulation. Therefore the Kenya Community Childcare Initiative is intervening during this time period to provide life-long results for children.

Caregivers: Childcare is an unmet need throughout Nairobi. In order to improve maternal employment, there must be affordable and accessible childcare services. KCCI will benefit caregivers immensely, through increased time, relieved stress, and higher income returns.

Siblings: Early childhood interventions remove the task of childcare from older siblings, so they can return to school. Therefore the Kenya Community Childcare Initiative relieves this burden, empowering young girls to increase school attendance.

Families: Through the increased capacity of maternal employment, family's livelihoods will improve. KCCI will increase livelihoods and improve family-wide access to basic needs.

Community Health Workers: CHWs are volunteers despite working long hours in demanding environments. KCCI is providing a profound employment opportunity, lifting them from poverty.

Informal Settlements: Successful physical, cognitive and emotional development in a child's first five years translates into tangible economic returns. Early interventions yield higher returns when compared with future supportive services. KCCI bolsters early childhood development, empowering long-term economic success.

MONITORING AND EVALUATION

To develop efficacious sustainable programs, measurable outcomes tracking program progress are essential. KCCI's monitoring aims to improve the efficiency and effectiveness of their programs. This will help identify any challenges, as well as suggest possible solutions to problems.

Pre-implementation KCCI will measure the following:

- Number of community-organization, government, clinic, and school partnerships
- Number of community health workers trained and employed
- Number of community mobilizations conducted to market the program locally
- Baseline process and outcome measures as indicated below

Throughout implementation, formative evaluation will be conducted to measure KCCI's progress. These metrics will first be obtained throughout the local community prior to implementation. This will determine a baseline for future outcome data comparisons. Additionally when children arrive at the childcare facility on the first day, these measures will be obtained individually. Subsequently the measures will be assessed both center wide after each six-month period, but also for each child at each 6-month attendance duration. This monitoring will display the efficacy of specific services, indicating any areas that require quality improvements. The metrics listed below will be collected. Most of the measures are quantitative, with a few qualitative measures regarding program satisfaction.

Monitoring Impact on Children

Process measures

- # of "health check-ups" provided
- # of children referred to local clinics
- # of nutritious meals served
- # of children receiving micronutrient supplementation
- # of children receiving early childhood education
- # of children using services ages

Outcome measures

- Rate of childhood illness and infections
- # of children recovering from malnutrition and mineral/vitamin deficiencies
- # of children receiving full vaccination sequence
- Rate of under nutrition (wt for age), stunting (height for age), and wasting (wt for age)
- Motor and cognitive capacity and skills

Monitoring Impact on Families

Process measures

- # of caregiver childcare trainings conducted
- # of caregivers trained in child health and development
- # of families enrolled in empowerment program
- # of caregivers provided small-scale business training and capital

Outcome measures

- # of caregivers transitioning from informal to formal employment
- Rate of caregiver employment
- Caregiver service satisfaction
- Siblings' rate of school attendance

Monitoring Impact on the Community

Process measures

- # of community partnerships developed
- # of staff development trainings
- # of community child health and development trainings conducted

Outcome measures

- # of local community members employed
- Community reputation of the program

Post-implementation (Months 12, 24, 36, etc.), KCCI will undergo yearly summative impact evaluations including a counterfactual, measuring the program outcomes listed above when compared to families within the community not using KCCI services. If KCCI childcare centers have not met their objectives, the Board of Directors will meet with all staff to adjust their services to achieve program goals.

STAFFING

Minimally each childcare center will have one full-time Site Supervisor per childcare facility, one full-time Nutritionist, and one full-time Security Guard. Additionally each age group (6 – 18 months, 19 - 36 months, and 3 – 5 years) must have one full-time Community Health Worker assigned to care for the children's health. KCCI employs local community health workers (CHWs), whom are dedicated advocates for the health of their communities. All CHWs have extensive training in child health, HIV, nutrition, and health services. Each CHW has worked in his or her informal settlement community for at least five years. Additionally employed will be Community Caregivers to provide supervision (which can be a locally trained teacher or CHW). For the three to five years age group, there will be one registered Early Childhood Teacher.

SUSTAINABILITY PLAN

KCCI aims to counter traditional health and development programs, which often use a top-down and externally funded approach. While this empowers the communities with which KCCI serves, it challenges the long-term financial viability of the program. Therefore KCCI has developed a strategic plan to remain sustainable without consistent international funding. This model ensures long-term efficacy and impact. Each childcare center has the goal to become fully sustainable within two-years via social enterprise activities, (low) childcare fees from caregivers, and small-scale governmental support. Additionally nutritional inputs will be provided by a partnership with Concern Worldwide. The specifics of each of these sustainability components are detailed below.

Social Enterprise: In order to achieve self-sufficiency, community childcare centers will implement social enterprise activities to circulate profits back into the program's budget. This will allow the childcare centers to achieve independence and direct their own community's social development. The Kawangware childcare center will implement a community garden for produce production and sales, as well as chicken rearing for egg and chick sales. These activities will also provide nutritional inputs for the children.

Childcare fees: In order to instill value and community ownership over the program, it is essential to require that caregivers pay for the service. This is vital as one of the major goals is to empower economic self-sufficiency for the families of attending children. KCCI childcare centers will charge 50 Kenyan Shillings per day (equivalent to $0.60)

Government Grants: When registered with the National Ministry of Gender, Children, and Social Development, community-based organizations can apply for grant funding. Grants are small-scale renewable funds for annual support. The childcare center staff will pursue these opportunities via proposal development.

Nutrition Support: As high quality nutrition is expensive, particularly micronutrient supplementation, the cost of these inputs would threaten the viability of the program within the first two-years of operation. Therefore Concern Worldwide will provide nutritional support. For the first two years they will provide small grants for nutritious meal and snack provisions, in addition to micronutrient supplementation. After two-years when the program has become self-sufficient, the grants for nutrition purchasing will be discontinued, but micronutrient support will continue.

DISSEMINATION

Ultimately the Kenya Community Childcare Initiative will expand beyond the child, family, and community level to the policy and national level. UNICEF, the World Bank, WHO, and other agencies encourage the need to focus on this "mega-level" to ensure wide-scale support for vulnerable children. While Kenya has a pre-existing national early childhood education policy, the quality and implementation of services has been limited. Therefore the KCCI model will be used to leverage support and evidence for the expansion of similar services on a policy level in Kenya. This will not only advocate for increased early childhood education and development, but also emphasize the importance of care for children under the age of three, which has been neglected within Kenya. Therefore KCCI will provide a model example of quality young child care (under three years), and the efficacy of community-driven responses to this need.

The Kenya Community Childcare Initiative will attend numerous conferences to engage a wider non-profit and international organization audience. Conferences such as the Clinton Global Initiative, Global Engagement Summit, Global Health in Action, and the Consortium of Universities for Global Health will be attended. At these conference field experiences and programmatic recommendations will be promoted.

BUDGET

Key personnel:

Sheela Bowler - Program Director: Sheela is a Masters of Public Health student in Global Health at Emory University's Rollins School of Public Health, with a certificate in Maternal and Child Health. Sheela has a Bachelors of Arts in Public Health and African Studies from the University of Washington. For seven years she has been a dedicated advocate for vulnerable children with experience in Ghana, Uganda, Tanzania, and Kenya, in addition to domestic work with homeless and immigrant children.

As the Program Director, Sheela will guide the program's strategic model and activities, while coordinating the business plan development. Sheela is also organizing the initial planning and grant writing for funds obtainment. In addition to coordinating the programmatic model, Sheela has developed the evaluation framework and will coordinate its implementation with the Program Coordinator. When funding is secured, Sheela will move to Nairobi, Kenya to facilitate implementation. Sheela will work at 50% time for 12 months per year, totaling 6 person months. This effort will be provided in-kind.

Peter Ndambuki - Program Coordinator: As a long-standing social worker throughout the organization, Peter has profound knowledge and expertise. Before working in the Kawangware settlement, Peter worked in the slums of Kangemi. Peter and Sheela worked closely for three-months developing the program model and strategic objectives. As the Program Coordinator, Peter manages all KCCI activities, childcare centers, and organization wide strategy. Peter will also serve as the liaison between the Program Director and all other staff. Peter will directly coordinate implementation, management, and monitoring and evaluation for the program. He will serve full-time in this position for 12 person months for both year one and year two. The salary of $900 per month is equivalent to Nairobi standards for the equivalent position.

Conor Kelly – Director of Media and Marketing: Conor obtained a Bachelors of Fine Arts from Seattle's Cornish College of the Arts. He has worked in Tanzania at an orphanage, and volunteers domestically with vulnerable children. As the Director of Media and Marketing, Conor Kelly will coordinate and execute all outreach activities in

the United States. This includes the development of a website, marketing strategy, brand promotion, and more. Conor will work at 10% time, for 12 months, equaling 1.2 person months per year. This effort will be provided in-kind.

Other staff:
Community Health Workers: KCCI will employ community health workers (CHWs) who will serve in the role of Childcare Center Caretakers. CHWs are dedicated advocates for the health of their communities. All CHWs have extensive training in child health, HIV, nutrition, and health services. Each community health worker has worked in his or her informal settlement community for at least five years. They know the community, needs, and demand.

Each center will employ three full-time community health workers. This results in a total of 12 person months per year. Based on community needs assessment results, and on-the-ground salary research, the CHWs will receive $125 per month. This is based on a $6 per day rate, equivalent to the local CDC wage for CHWs. All community health workers will also be provided with free childcare, health, and nutrition services as they are offered through KCCI's services.

Community Teacher: The childcare centers incorporating the early childhood development and education module will require one full-time teacher who specializes in early childhood education. This is essential for the three to five years age group, and is not required for children under the age of three. They will provide all activities as they relate to education, development, and school transitions. The Community Teacher will work full-time for 12 person months per year. Their remuneration of $125 monthly reflects standard pay for equivalent positions in the region.

Community Caregiver: Community Caregivers are essential to the childcare centers. It is recommended that a community health worker, community teacher, or otherwise experienced community member fill this position. There will be a full-time Community Caregiver for the six month to eighteen month age group, and the eighteen month to under three years age group. This position is responsible for providing quality nurturing, safe, engaging childcare services. Their remuneration of $100 monthly reflects standard pay for equivalent positions in the region.

Site Managers: Each childcare center will also have a Site Manager. The Site Manager will also be a local resident (either community health worker or community social worker), and coordinate site level activities. This position will report directly to the Staff Coordinator and Program Coordinator. They will be in charge of their respective sites, and coordinate meetings, activities, and manage staff. Their remuneration reflects the standard pay for equivalent positions in the region. The Site Manager will work full-time for 12 person months per year.

Cook/nutritionist: each childcare center will have a cook/nutritionist. This position will manage the lunch and snacks provided for the center. They will ensure each meal is balanced, healthy, and safe. This will be accompanied by safe water. Furthermore, this person will also be in charge of monitoring the nutritional status of children, and assessing their needs. This will include weighing, measuring height, and verifying mid-upper arm circumference (MUAC) scores. In response to individual needs, they will coordinate treatment sequences, and follow-up with vulnerable children. The person in this position will be working at 100% time for 12 person months per year. The monthly salary of $125 is indicative of local wages.

Graduate students: Graduate students in the public health, social work, and non-profit programs within Kenya are required to undertake a internship during their studies. As such, KCCI will work with the local universities to recruit a graduate student for each of the childcare center sites. Graduate students will not be paid for their efforts, as university requirements state they must not be remunerated for their time as they are receiving academic credit. Graduate students will be expected to put in 50% to 100% time for 6 months, totaling 3 or 6 person months per year.

Security Guard: Each center will also require a Security Guard. The Security Guard will verify the safety and security of the sites. This position is full-time for 12 person months per year. The monthly salary of $100 is standard for an equivalent position in this region.

Travel:
Domestic travel: Sheela Bowler will be attending two conferences in 2013 to present the Kenya Community Childcare Initiative efforts. These conferences occur in early and late April 2013 within the United States,

specifically in St. Louis, Missouri and Chicago, Illinois. The conferences are the Clinton Global Initiative University and Global Engagement Summit respectively.

The Clinton Global Initiative University is a summit engaging students solving global problems worldwide. The summit has sponsored the attendance of KCCI and is covering airfare, lodging, and food expenditure costs for Ms. Bowler. Therefore, the grant will only have to cover the transportation to and from the airport, estimated at $100 total.

The Global Engagement Summit (GES) is an empowerment platform for students projects aiming to change the world. GES has sponsored KCCI to attend and present their work to global health leaders. The summit has sponsored the attendance of KCCI and is covering all travel, lodging, food, and additional expenditure costs. Therefore, the grant will only have to cover the transportation to and from the airport, estimated at $100 total.

International Travel: Sheela Bowler to move to Nairobi, Kenya. Therefore the cost of this is the total amount of a one-way flight to Nairobi amounting to $1,500.

Training:
Staff training: Training of both childcare center staff and child caregivers (i.e. mothers, aunts, grandmothers) will be conducted. All the space, instructor, and curriculum is available through in-kind support, however printing, paper, and food must be provided. As such each community health worker and other staff training per site will require $100 for implementation.

Community Trainings: Community trainings for caregivers will require additional inputs and resources. In result each training session has a daily cost of $250 to operate. KCCI community trainings are hands-on models to train local women in small-scale income generating activities (IGA). For example the IGA trainings will include chicken rearing, community gardening, soap-making, and crafting. Some trainings are only one-day sessions as they are simpler activities, however certain trainings that require more hands-on training, i.e. chicken rearing and gardening, will require two days. As such these trainings will run a total cost of $500. This will cover training curriculum ($50), printing costs ($50), food for participants ($100), and expert trainers ($50) per day.

Equipment:
Some medical equipment will be required for program implementation. These items include the basic medical equipment such as a thermometer, stethoscope, weight scale, and a measuring tape for growth monitoring. Additionally de-worming medication will be purchased yearly. The total cost for KCCI equipment is $1,370 when including the social enterprise activity for the childcare facility, which will eventually cover the original cost with expected profits. The specific items and their cost are listed below:

- De-worming medication (500 tablets) 100
- First-aid supplies (bandages, cleaning agent, antibiotic ointment) 200
- Basic medical equipment (stethoscope, thermometer) 20
- Scale & Measuring tape 50
- Chickens & chicken coup 500
- Community Garden 500

TOTAL: $1,370

Materials and supplies:
Additionally specific materials and supplies are needed for the childcare center and community outreach activities. This includes the basic necessities such as beds for childrens' naps, which also requires mattresses and bedding. Simple things such as chairs, rugs and playmats, washing basins, as well as child toilets will be required to sustain a healthy environment for children. Additionally included are toys for child stimulation, as well as early childhood education and development activities curriculum. The total cost for these inputs is $2,140. While this number may seem high for one childcare center, these activities will then be used for years to come and do not require yearly re-purchasing. The specific items and their cost are listed below:

- Mattresses (8) 250
- Bed (8) 400
- Bedding (8) 100
- Chairs (15) 100
- Toys 200
- Child toilet 30
- Education materials 250
- Reusable Diapers 50
- Childcare resources 100
- Washing basins 50
- Soap 300
- Clothes pins 10
- Eating utensils 200
- Rugs / playmats 100

TOTAL: $2,140

Facilities:
Rent: The $3,00 yearly rent displayed within the budget reflects the expected cost based on current market rent rates in the informal settlements of Nairobi.

Security equipment: The informal settlements lack security, and it is essential that the childcare centers boast safety and security for all children. Therefore, the purchase of security equipment is needed to reinforce the security of the site. This requires a fence, with a gate, and strong locking mechanism. Above the fence there must be additional security, i.e. barbed wire or locally relevant broken glass. Therefore in order to implement these measures, $500 has been allocated to security. The specific items and their cost are listed below:

- Fence 350
- Glass 100
- Lock 50

TOTAL: $500

Communication:
Operations: In order to maintain consistent communication with local staff and community members there are costs associated with copying ($50), printing ($50), and mobile phone airtime ($300). Additionally Internet airtime will be purchased for the program coordinator to maintain consistent contact with partners in the United States for a total of $400. The total cost for all communication efforts is $1,400. These costs are ongoing and will be required yearly.

Outreach supplies: In order to implement the KCCI program, community outreach will be essential. In order to reach the community to mobilize their involvement in the project there is a need for community mobile phone contact ($300), printed materials ($100), and t-shirts ($100) to identify KCCI staff within the community. The total cost of outreach supplies is $250, however is a one-time cost.

Sustainability:
There are limited resources required to implement the childcare centers and caregiver empowerment programs. Initially high costs are associated with implementing the facilities, however these will decrease when basic infrastructure is obtained. Funds to acquire the required resources will be obtained through fundraising and grant writing. After initial resources are purchased, limited materials are necessary once the main inputs are put in place. The Kenya Community Childcare Initiative will be sustainable within three-years via income generating activities and (low) childcare fees from caregivers. Additionally, the Kenya Ministry of Gender, Children, and Social Development, as well as Concern Worldwide will provide continuous small-scale support in country for social services and nutrition respectively.