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Assessment of the effect of the devolved governance intervention on early childhood development and education in Samburu County

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ASSESSMENT OF THE EFFECT OF THE DEVOLVED GOVERNANCE INTERVENTION ON EARLY CHILDHOOD DEVELOPMENT AND EDUCATION IN SAMBURU COUNTY

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DECLARATION

I declare that this work has not been previously submitted and approved for the award of a degree by this or any other University. To the best of my knowledge and belief, the dissertation contains no material previously published or written by another person except where due reference is made in the dissertation itself.

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ABSTRACT

The 2010 Constitution bestowed Early Childhood Education Development to the devolved units. Despite this, there are challenges that exist which hinder accessibility to schools. This study sought to assess the effect of devolution on enrolment to early childhood development and education. The specific objectives were to establish the effect of community infrastructural development, impact of county government investment on school facilities, introduction of school feeding program, effect of teaching staff on enrolment to ECDE in the advent of devolution. The study was guided by the theory of change. The descriptive design was adopted. The research targeted 530 ECDE teachers. The sample size was 30% of all teachers, which was 159. The data was analyzed using descriptive statistics including frequency distribution, measures of central tendencies (mean and standard deviation). A correlation analysis was used to determine the level of association of variables, while regression analysis was used to establish the relationship between the study variables. The study outcomes revealed a positive and significant relationship between number of classrooms and ECDE enrolment, and number of teachers and ECDE enrolment. The study concluded that the introduction of devolution had led to new infrastructural developments within Samburu County, the county government investment on school facilities was effective in enhancing enrolment to ECDE., the introduction of devolution has resulted to increase in the number of feeding programs in the ECDE centers, and that the introduction of devolution has resulted to hiring of more permanent ECDE teachers. Based on study results, the research recommended that both levels of governments should invest more in infrastructural development, improvement of school facilities, and school feeding programs. Finally, the county government should employ more teachers to ECDE centers.

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ACRONYMS AND ABBREVIATIONS

AABE: Alternative Approach to Basic Education

ASAL: Arid and Semi-arid Land

CECM: The County Executive Committee Member

CIDP: County Integrated Development Plan

CO: Chief Officer

ECDE: Early Childhood Development & Education

EAC: East Africa Community

EFA: Education for All

FPE: Free Primary Education

GER: Gross Enrolment Ratio

KNBS: Kenya National Bureau of Statistics

MDG: Millennium Development Goal

NACECE: National Centre for Early Education

NER: Net Enrolment Ratio

OOSP: Out of School Program

PTR: Pupil teacher ratio

UNICEF: United Nations International Children's Emergency Fund

UNCRC: United Nations Convention on the Rights of the Child

UNESCO: United Nations Educational, Scientific and Cultural Organization

UNICEF: United Nations International Children's Emergency Fund

UPE: Universal Primary Education

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DEFINITION OF TERMS

Devolution: Transmission of political power from the Central government to County governments with distinct boundaries.

Early Childhood Development and Education (ECDE): comprises the total of all knowledge-based experiences that the child between birth and eight years is exposed to. It is an all-round development of the child's physical, mental, social, emotional, and spiritual faculties. Competitive stimulation and psychological development are part of ECDE. In this study, it is the holistic early stimulation interventions children receive in ECDE Centers in Samburu County, Kenya.

Early years: According to UNESCO, early years for early Childhood & Education includes ages zero to eight years.

Infrastructure: Denotes to essential community physical facilities (such as roads, electricity power supply, health centres, communication, water) needed for the operation of society and development programmes and ventures in Samburu County, Kenya.

Participation – A manner through which stakeholders – parents, community members ECD facilitators and sponsors, take an active part, in development of ECDE centres investment and growth.

Parental Economic Empowerment: refers to interventions that enable families to be self-reliant in the areas of food security and income sustainability in Samburu County, Kenya.

Parental Participation: Refers to the function parents undertake in initiating and following up education of their ECDE children in Samburu County, Kenya

Pre-Primary Education: is the education a child receives in institutions before joining the formal education in primary school. The institutions include the home, daycare centres, nursery schools, teachers, playground and kindergartens.

School Facilities: In this study, it refers to buildings and amenities provided to ECDE Centers in Samburu County, Kenya.

School Feeding Program: Foodstuffs and meals provided to ECDE Centers in Samburu County, Kenya.

Staffing: In this study, it refers to teachers in ECDE Centers in Samburu County, Kenya.

Sustainable: a course of development interventions that are persistent or durable and that can endure over time with negligible additional external input.

Teaching and Learning Resources: It refers to resources like textbooks that aid teaching and learning in ECDE Centers in Samburu County, Kenya.

CHAPTER ONE

INTRODUCTION

1.0 Introduction

Early childhood education is learning that children go through before lower primary school. It may also refer to experiences' learners get towards gaining social, cognitive, behavioral and physical development (Maryville, 2021). It is also appreciated as the period that learning takes place between ages zero to eight years (National Association for the Education of Young Children, 2021). On the other hand,

Early Childhood Development and Education (ECDE) aims at the holistic development of a child's social, emotional, cognitive and physical needs in order to build a solid and broad foundation for lifelong learning and wellbeing (UNESCO, 2021). The target is period from birth to eight years old, where it is argued that a Child's brain development is at its peak. The major difference is that ECE focusses on learning while ECDE focusses on wholistic development of a child.

Devolution is a new governance system in Kenya brought about by the promulgation of the Constitution in 2010. This entails the decentralization of the political, administrative, and fiscal units across the country. As per the provisions of the Constitution of Kenya (2010), the country got divided into 47 governance units, otherwise known as counties, to facilitate devolution according to Article 174 of the constitution (Constitution of Kenya, 2010). In order to make several developmental goals achievable, Kenya promulgated a new constitution in 2010 which established government administration at two levels - County and national level. In essence Kenya transited from a central administration to devolved government. One key objectives of devolution as outlined in Article 174 of the Kenya's constitution is to promote socio-economic development, provide proximate, easily accessible services, and to enhance government service delivery.

In the Kenyan context, devolution has been implemented through transfer of some National Government functions to the County Governments (Ngigi & Busolo, 2019). As a result of the enactment of the Kenyan Constitution in 2010, 47 counties were created. The main purpose was to bring services closer to the people. The counties became operational in 2013 after the

General Elections. The National Government administration, before devolution, had many challenges regarding service delivery to the citizens. The challenges included; marginalization, enormous inequities, resource mismanagement, and the isolation of many groups from decision-making processes. Samburu County, being one of the marginalized counties, has greatly benefited from devolution.

The relationship between devolution and Early Childhood Development and Education is that the advent of devolution has spelt hope for the EDCE status in Samburu County. Various initiatives have been taken by the County Government to improve the status and uptake of ECDE among the residents of Samburu. Some of these initiatives include Community infrastructural projects, school facilities, School Feeding Program and teaching staff.

1.1 Background of the Study

Kenya has made great strides in improvements of early childhood education programs, which was entirely the responsibility of the local communities prior to institutionalization in 1984. The creation of the National Centre for Early Education (NACECE) in 1984 was a major step in institutionalizing curriculum development and human resource investment through training of trainers. A report by UNESCO (2002) estimated that ECDE enrollment in Kenya increased from 200,000 children in 1969 to 1,281,846 children in 2002 (UNESCO, 2002; Nganga, 2009). The Government of Kenya has continuously acknowledged the importance of early childhood development as a mainstay in hastening Sustainable Development Objectives (Republic of Kenya, Ministry of Education, 2006).

The early years are internationally recognized to be the greatest fundamental age for the lifetime growth of a person (ILO, 2012; Kang'ethe, Wakahiu, & Michael, 2015). This is so because it is believed that the child's mind is at the most receptive stage at this age. Most founders of early childhood education have also emphasized on the same fact. For instance, Froebel, Pestalozzi and Dewey constantly showed that early years are a crucial stage of mental development and physical capabilities and advancement at an astonishing degree (Murunga, 2015).

Prior to devolution, early childhood education programme was mainly funded by the parents directly and complemented by partnerships from a number of Non-Governmental Organizations (NGOs). The effort by the government to introduce free primary education made some parents take children directly to primary school without going through early childhood

education in order to avoid ECDE levies meant to fund its operations (Ngaruiya, 2008). Worse still, parents did not understand why primary schooling had to be free and not early childhood education; they have consequently resisted paying ECDE levies, hence denying early childhood education a vibrant source of funding.

The trends in ECDE in the national level in terms of enrolment of children, availability of teachers and facilities indicate that prior to devolution; enrolment rates in ECDE centers were quite low. Statistics in the Kenya Year Book (2015/16) indicate that because of the administration's commitment to offering education to its citizens, the early childhood education sector has continued to make progress marked by an increase in enrolment rate, rise in the number of teachers and also betterment of ECD centers. For example, in 2014, the level of enrolment grew to 3 million from 2.9 million recorded in 2013. This was an increase of 3.5 percent in children enrolment. In the same period, the number of teachers in ECDE centers grew from to 104,764 in 2014 from the 101,062 recorded in 2013 (Kenya Year Book, 2016). Similarly, the level of training of ECDE teachers also grew with 88,154 trained teachers getting recorded in 2014, a 5.2 percent increase from the 83,814 recorded in 2013.

Early Childhood Development Education centers in Kenya also increased to 40,219 in 2014 from 40,145 recorded in 2013. This was a 0.2 percent increase in the center numbers. Due to the devolving of pre-primary education to county administrations, the national budget by the national government keeps decreasing tremendously. This gives room for county governments to take over the management and running of ECD centers in their respective counties (Kenya Yearbook, 2016). To address the problem of lack of resources relating to the financing of ECDE, many developing nations like Kenya have dedicated significant amount of resources to improve and expand early childhood education. This initiative is envisaged to improve enrolment and quality of education in ECDE centers.

County governments in Kenya have grappled with the challenges of low enrolment and the quality of early childhood education. Each of the forty-seven counties is faced with unique contextual challenges that call for unique targeted strategies. However, in all of them, early childhood education has been a priority. Many of them have employed ECDE teachers either permanently or on contract. In some counties, parents augment the efforts by contributing monies to pay teachers. In this regard, there is no clear programme on funding and there is also lack of coordination mechanism facilitating involvement of the stakeholders. However, county governments carry the biggest load in the implementation of early childhood education

programme due to low economic status of parents in arid and semi-arid areas. This has given counties impetus and room to drive the agenda of ECDE enrolment and quality forward. The study, therefore, sought to assess the effect of the devolved governance intervention on early childhood development and education in Samburu County.

1.2. Overview of Samburu County

Samburu County lies in the former Rift Valley province of Kenya. It has three sub-counties. Samburu North, Samburu East and Samburu Central. The county has an area of 21,000 square kilometers and is situated between a longitude of 1ºand 36º and a latitude of 10N and 40E (Samburu County CIDP 2018). As per the 2019 Population and Housing Census , the total population in Samburu County is 310, 327 (KNBS, 2019). Most residents of Samburu County engage in pastoralist activities and migrate from one place to another in search of pasture for their herds. The main economic activity in Samburu County is pastoralism which involves livestock rearing in a nomadic lifestyle, fueled by a inadequate rain which often leads to decline in pasture and access to water. The county's economy has sometimes been hampered by inter-ethnic conflicts which keeps away investors and discourages trade promotion. The people of Samburu value their cultural and traditional beliefs and this influences their relationship with each other.

The county is headed by a county government led by the County Governor who is the head of the county executive. The county is headquartered in Maralal Town where the county government also operates from. The Governor is deputized by a deputy governor who ranks second in the management structure. The public service board oversees the activities of the county while the county assembly checks the working of the executive and makes legislations. The county has a total of 9 departments including the Education and Vocational Training department led by a CEC assisted by a CO. Education and Vocational Training department is responsible for managing ECDE centers in the three sub-counties.

1.2 Early Childhood Development and Devolved System of Governance in Samburu County

1.2.1 Pre-Devolution Era

Samburu region faced myriads of challenges in terms of ECDE development and growth before devolution. These problems were majorly related to the availability and quality of

infrastructural facilities like classrooms and toilets, the inadequacy of teachers as well their training and funding of these institutions from the exchequer. Since Samburu region is a marginalized and categorized arid and semi-arid land (ASAL), there are challenges associated with high morbidity as well as malnutrition of pupils, which prolong their instruction time. Traditionally, ASALs were synonymous with inequity in resource allocation by previous government regimes. Samburu region also faced such inequitable resource allocation leaving centers in the region in total disarray because of lack of resources to develop facilities (Kenpro, 2014).

The cognitive processing aptitude of children in the region was also affected by the high malnutrition and morbidity levels in the region. Prior to devolution, the livelihood status of most residents in the county was characterized by struggles to feed their children leaving little or no resources for early childhood training. Kenpro (2014) also reveals that the other significant challenge was the issue of high teacher-to-pupil ratio coupled with low or poor pay to the teachers and support staff. The poor pay, together with the higher number of pupils a teacher was to handle acted as a big source of demotivation for the ECDE teachers. Another challenge facing ECDE as identified by Kenpro (2014) was inadequacy of learning and teaching facilities. Most centers lacked classroom and the children would learn under trees while writing on floor or earth. These challenges persisted before devolution of resources to counties (Odundo, 2017).

Early Childhood Development and Education (ECDE) in Kenya, has seen remarkable growth over the years. The Net Enrolment Rate (NER), rose from about 34% in 2006 to 50% in 2009 (Samburu County CIDP, 2018).

The ECDE enrolment in Samburu in 2009 stood at 20,662 children gradually rising to 26,004 in 2011 (Department of Education, Samburu County, 2018. Prior to devolution the number of ECDE tutors stood at 42 (20 males, 22 females), serving 421 ECDE centers. Remuneration of these tutors was entirely catered for by the parents and was quite erratic. Many ECDE centers had no classrooms or other facilities and learning was taking place in church halls, makeshift classes, and temporary structures as well as under trees (Department of Education, Samburu County, 2018). These conditions made it difficult for most pupils to enroll in centers forcing most of them to stay at home thereby impacting on the net enrolment rates.

1.2.3 Devolution Era with Focus ECDE in Samburu County

In the advent of devolution, where county governments presumed the constitutional mandate of managing early childhood education, many counties dedicated efforts to the enhancement of enrolment, retention and transition in line with the existing policy framework (GoK, 2006). Some also sought to address the challenges of inadequate teachers and infrastructural facilities, quality and number of teachers as well as teacher remuneration to attract them to the job. Already, as indicated by CIDPs of many counties, pre-primary education enrolment has improved tremendously in several counties. The Constitution (2010) mandates County Governments to support political, social and economic development in their respective areas of command. The County Government of Samburu has done a lot in the promotion of food security, Early Childhood Development and Education, Economic empowerment infrastructural development, among others (The Constitution of Kenya, 2010).

Since 2013, Samburu County Administration has invested significant resources in ECDE. In partnership with other stakeholders, 174 new ECDE Centers have been constructed increasing the Centers from 346 to 520 with an additional 48 private centers, bringing the total to 568. The number of ECDE teachers has also increased in the county from 42 to 530 (Samburu County, 2019)

The rate of ECDE enrolment rose tremendously to about 75% by 2015 (Samburu County CIDP, 2018). The increase can be attributed to the efforts made by county governments to fund more ECDE centers and employ more ECDE teachers following the devolution of ECDE as Odundo (2017) argue. According to Samburu County's CIDP (2018-2022), the enrolment of pre-primary school has risen to 42,938 in 2017 up from the 20,420 in 2013. The increase in enrolment is attributable to the increased investment in ECDE by the county administration, a matter that has increased access and quality of education to the three sub-counties. With a total population of 310,327 people in Samburu County as per the 2019 Population and Housing Census (KNBS, 2019), an ECDE net enrolment of 8.6% (2009) and 10.8% (2011) is quite low compared to the national net enrolment of 50% in 2009.

The number of ECDE centers rose to 546 in 2017 from 470 in 2016, the increase is attributable to the initiation of several series and partnerships with other providers of pre-primary education which include private and church-run. The number of ECDE teachers in Samburu County stood

at 41 prior to devolution in 2012. In 2017, the number of teachers stood at 470 teachers, a 105% increase with an average increase of about 100 teachers annually for the first four years of devolution (Samburu County CIDP, 2018).

The County Government has also developed infrastructure in the rural areas by expanding rural road network, drilling boreholes, constructed health facilities, and lobbying mobile service providers to increase coverage. This has opened remote areas to development in addition to increasing the enrolment rate of kids and access to ECDE centers. For instance, the NER in the county increased by 105% in 2017 from the rate reported in 2012 (Samburu County CIDP, 2018). The increase also led to enhanced access to pre-primary education thereby laying a good foundation for future success.

There have been several initiatives take by the county government, those related to ECDE include community infrastructural development, investment in school facilities, school feeding programme and teaching staff. The actions of the county government have enhanced the socio-economic status of families thereby giving them an opportunity to improve their diet. An improved diet translates to less disease and in turn decreased malnutrition and morbidity cases. The implication of these is that children will be able to attend classes with minimal strain and parents will be capable of paying the fees and levies.

Samburu County CIDP, (2018). also highlights the efforts made by the county in developing infrastructural facilities for ECDE centers, initiating school feeding programmes and also hiring additional tutors to reduce the teacher-pupil ratio. The county government has partnered with donor agencies, investment firms and other companies to augment the state of early childhood education in the county. The county administration also partners with businessmen and other reliable agencies to ensure the success of school feeding programmes to reduce the effect of malnutrition and ill-health on school enrolment.

1.3 Statement of the Problem

The Kenyan Constitution identifies the distinct functions for the National and County Governments. Part 2 (9) indicates pre-primary as a function of County Governments. Further, Article 175 mandates the County governments to deliver the devolved services effectively to the citizens within their respective jurisdictions. Consequently, in exercising its constitutional mandate, the Samburu County government has executed several development projects geared towards improving the lives and livelihoods of the inhabitants of Samburu County. One such

mandate is the development of Early Childhood Development and Education (ECDE) initiatives aimed at enhancing ECDE access, quality and equity. These include community infrastructure, development of school facilities, school feeding program and teaching staff.

Following the transfer of the ECDE function to the County governments, there exist a need to interrogate the investment in the sector and the subsequent relationship with enrollment. This involves identification of the keys pillars in ECDE sector, comprising of infrastructure development, school facilities, feeding programme and teaching staff and their relationship with enrollment and retention in the selected ECDE centres. This will provide a picture on the trend on enrollment and provide further information on the link between Samburu County's investment on the sector and the ECDE sector performance on enrollment and retention.

1.4 The General Objective

This study is focused on assessing the effect of community infrastructural development; government investment on school facilities; introduction of school feeding program and teaching staff by the County Government on enrolment to ECDE in Samburu County.

1.4.1 Specific Objectives

The specific objectives of the study were:

i. To establish the effect of community infrastructural development on enrolment to ECDE from 2013-2020 in Samburu County, Kenya.

ii. To assess the effect of county government investment on school facilities on enrolment to ECDE in Samburu County.

iii. To assess the influence of the introduction of school feeding program, by the County Government, on enrolment to Early Childhood Development and Education (ECDE) in Samburu County, Kenya.

iv. To determine the effect of teaching staff by the County Government on enrolment to ECDE in Samburu County.

1.4.2 Research Questions

i. What is the effect of county government's investment on community infrastructural development on Early Childhood Development and Education (ECDE) enrolment in Samburu County?

ii. What is the effect of the enhanced school facilities by the county Government on Early Childhood Development and Education (ECDE) enrolment in Samburu County?

iii. What effect does the introduction of school feeding program have on Early Childhood Development and Education (ECDE) enrolment in Samburu County?

iv. What is the effect of teaching staff on ECDE enrolment in Samburu County?

1.5 Justification for the Study

The research findings will be useful for both levels of governments in revealing important issues on the current tendencies in the execution of early childhood education program, achievements and bottle necks facing early childhood education in Samburu County and strategies that can be employed to improve access to quality early childhood education.

The study findings will also provide useful information that may help researchers and academics understand and gauge the effectiveness of early childhood education in the context of devolution in Kenya. With reference to the initiatives the County Government has taken, it is hoped that beyond researchers, the findings will also inform policy and subsequent funding for the initiatives meant to enhance ECDE.

School managers and educators may use the results to inspire parents and other stakeholders to get involved in children' education right from early childhood level by introducing strategies and systems that enhance infrastructure, supportive programs and teaching staff in their children's educational matters.

1.6 Scope of the Study

The scope of the research was the three Sub-counties of Samburu namely Samburu East, Samburu West and Samburu North. It focused on four selected variables representing interventions because of devolution, these are community infrastructure, school facilities, school feeding program and teaching staff. The study assessed the effect of Devolution ECDE

the period between the years 2007-2012 and 2013-2019. This takes consideration of the fact that actual devolution was rolled out in 2012 despite the adoption of the constitution in 2010. The study focusses on effect of the initiatives of the County Government towards supporting ECDE.

CHAPTER TWO

LITERATURE REVIEW

2.1 Overview

This chapter reviews literature on theoretical and empirical literature on the impact of devolution on enrolment to Early Childhood Development (ECDE). Specifically, devolution variables are discussed in relation to ECDE. These are community infrastructure, school facilities, school meals and staffing. The chapter also looks at the policies related to ECDE while presenting the theoretical and conceptual frameworks.

2.2 Theoretical Literature Review

Theories that explain the link between various variables with ECDE enrolment are discussed in this section. Theoretical perspectives provide the basis for the research. The key theories guide the study. These include Theory of Change, Maslow's Theory of Hierarchy of needs and Theory of Human Capital.

2.2.1 The Early Childhood Theory of Change

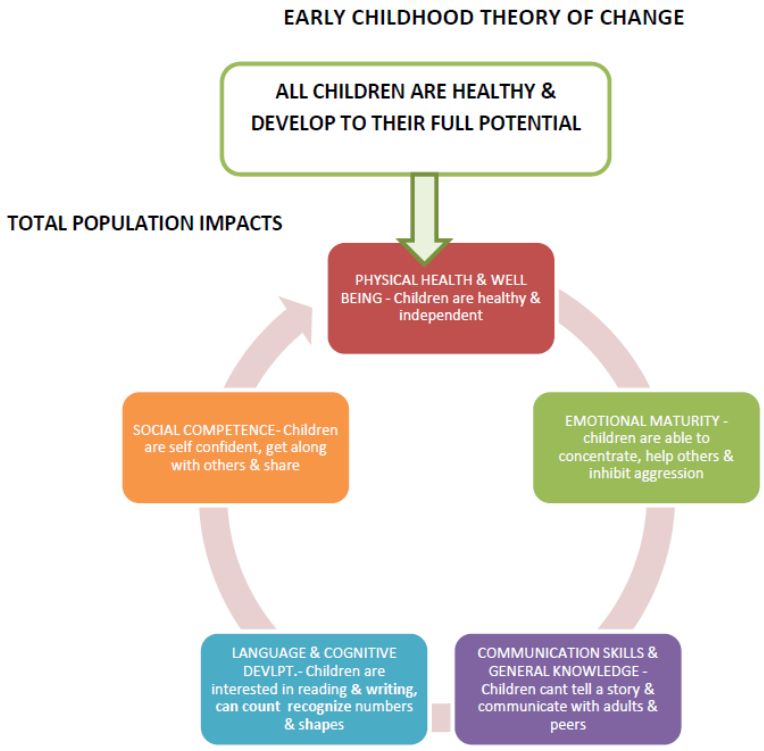
The leading advocates of the theory of change were Auguste Comte (1798–1857), Herbert Spencer (1820–1903), and Emile Durkheim (1858–1917); Karl Marx (1818–1883); and Talcott Parsons (1902–1979), respectively. The theory is a description of how and why change is supposed to happen and embraced in each context. The theory of change is focused on the gaps between what is the reality and what needs to be done in order to get to the desired outcome.

Theory of change is a theory-based approach to planning, implementing, or evaluating change at an individual, organizational or community level. An assumption is made that an action is purposeful. A theory of change articulates explicitly how a project or initiative is intended to achieve outcomes through actions, while considering its context. Theory- based methods are applicable to a range of disciplines including, for example, education, community development and public health, (Laing, K. and Todd, L. (eds) (2015).

Early Childhood Development and Education is component of early childhood development, it is concerned with a child's growth and development gaining social, cognitive, behavioral and physical development. Fig 2.1 presents the early childhood theory of change developed by

Children's Partnership Surrey, it captures the stages though which children are able to maximize their full potential in life.

Fig 2.1: Early Childhood Theory of Change



Source: Child's partnership survey

1. Physical Health and Wellbeing- For children to grow and achieve their full potential, they must be healthy. This is at the starting point in the cycle. Physical health can be facilitated by feeding programs within the ECDE centers.
2. Emotional Maturity- Children should be able to concentrate on their studies, develop emotional intelligence and limit aggression
3. Communication skills and general knowledge: Children can pick concepts in their surroundings and share with each other as well as communicate with adults
4. Language and Cognitive Development: The ability to communicate, speak and write. Recognition of numbers, shapes etc.
5. Social Competence: Self-confidence while with self and others.

ECDE affects components (3) and (4) above since it support the learner's cognitive development. There also needs financial investment to fund the ECDE initiatives

Devolution as a facilitator of ECDE

Devolution of services that affect early childhood results in such services being brought closer to the people since transferring decision making mechanisms and the associated resources to the grassroot level improves services delivery. Furthermore, prudent investment in ECDE will result in development and ultimately improved quality of life.

In Kenya, Early Childhood Development and Education, is among the devolved functions. County governments are charged with the responsibility of investing and implementing education at this level. Deliberate investment in areas touching development of early education and the associated changes in enrolment, retention, transition, and quality is the transformation illustrated by the theory of change. Theory of change posits that proper planning and investment in ECDE is essential and basis for a desirable change in enrolment and retention. School feeding, for example, can be used as a 'bait' for attracting children to school besides being a tool for building a lasting people's resilience and food security. It releases parents to fend for the family and cushion against food shocks. The programme can be adopted for realization of long-term goals, capacity building, and as complimentary to other investments aimed at enhancing ECDE enrolment.

Besides the desire to influence enrolment retention, Social protection is also an objective for school feeding program. However, without buffering families from food insecurity, school enrolment would be a mirage. School feeding cannot therefore be ignored because it is a critical contributor to increased enrolment, attendance, retention, and transition. The reasons being that it helps boost nutrition and health conditions of children. Because of this, the World Food Programme (WFP) has been in the forefront in mobilizing countries to develop and implement sustainable and effective feeding program (Fenning, 2017). Further, the other outcomes associated with Early Childhood Development and Education include, increased vertical and horizontal social cohesion, a reduced risk of transgenerational transmission of violence, and increased economic growth and sustainable development within communities, and at national and international levels according to Organisation for Economic Co-operation and Development (OECD, 2006). This can be achieved through following the tenets of the theory of change as proposed by OECD and Child partnership survey (See figure 2.1). To ensure that the child wholistic development receives attention, funding should be provided for school feeding program (for physical health), teaching and co-curricular activities (physical and cognitive development) among others.

2.2.2 Maslow's Theory of Hierarchy of Needs

Maslow's theory was proposed by Abraham Maslow in 1971. It is a motivational theory majorly applied in psychology. It consists of a five-tier model of human needs in a pyramid, thus the name Maslow's hierarchy of needs. The needs are depicted as hierarchical where the ones at the base of the pyramid need to be addressed before the ones that are higher up can be met. These needs are psychological needs, safety needs, belongingness, love and esteem needs and finally self-actualization. Further the needs are categorized as basic needs (psychological and security), psychological (belongingness and love needs, and esteem) and self-fulfillment (self-actualization).

Further, the five-stage model has been divided into deficiency needs and growth needs. The deficiency needs are in the first four levels while the final level (self-actualization) is seen as a growth need. Maslow (1971) contemplates that unless the need for food is met together with other needs the child cannot seek for the growth needs. Provision of food through the School Feeding Program and especially to the disadvantaged child is one way of meeting this need. Food facilitates healthy growth, which enables the child to seek other needs like safety, love and belongingness, self-esteem, aesthetic and cognitive needs and even self-actualization. Consistent provision of SFP with correct quantities of calories can enhance learning in a big way. Lack of SFP in schools may disadvantage vulnerable children who get little or no food at their homes.

2.2.3 Theory of Human Capital

The human capital theory is anchored on the premise that education is highly essential to the improvement of the productive capacity of a population. Thus, an educated population is a productive population. The provision of formal education is seen as an investment in human capital, which proponents of the theory have considered as equally or even more worthwhile than that of physical capital (Woodhall, 1997). Equally, institutions are moving away from investing in physical capital to human capital. This is seen as a critical driver to economic growth.

Regarding school enrolment in ECDE Centers, human capital then becomes an important aspect towards enrolment and retention. On one end it is the belief that formal education will facilitate the children's economic growth and later they can support their families.

The other matter concerns teaching staff in the ECDE centers, especially the ones who are skilled enough to make the journey of formal education worthwhile. Having such in schools, the students would prefer to be in school than to be at home or anywhere else.

Human capital and ECDE are strategic drivers of growth and prosperity. As such the move to ensure that the schools are taken care of is important. In addition, the distribution of human capital across people is an important determinant of enrolment status with other schools in the country having an enhanced human capital capacity thus having better enrolment. This would also explain why there is a higher enrolment in private schools than there is in public schools since private schools take an initiative of ensuring there are enough teachers and the environment is conducive for learning.

High-quality ECD programs that focus on developing and maintaining nurturing environments can help children achieve better short-term developmental results as well as better long-term adult outcomes. This is envisioned in the theory of change where, in the case of Samburu County, the county government could implement relevant programs that contribute, in the long run, to the growth of ECD. This is not only in terms of numerical growth but also depth and relevance of the content.

From the Maslow's theory in Early Childhood Development & Education, the school that provides learners with food (snacks and lunch) will have a better enrolment and retention. Food is at the basic and psychological needs and until it is satisfied, it is not possible to talk about the pupil's competence and commitment to learn. When the School Feeding Programs are implemented, learners are motivated to go to school, it yields active participation. This leads to enhanced wholistic development, critical to ECDE.

Research related to ECD show that how children are introduced to learning is critical for subsequent learning and achievement. According to a World Bank report (2003), early childhood investment is the most cost effective form of human capital development. We see that human capital investment in ECD is critical on the human capital developed for a particular country. The role of ECD in human capital formation and the economic savings that can be made from investing in young children is enormous (OECD, 2006).

Devolution, then, plays a significant role as a facilitator of the goals of the Early Childhoold Development and Education in the sense that the county governments should take lead in creating an enabling environment for the growth of children in the ECDEs, providing for school

feeding programs, infrastructural development at the community and at the school level and quality human resources

2.3 Empirical Literature Review

2.3.1 Infrastructure Investment and ECDE

A significant link between infrastructural development and educational success has been documented in various literature. A study conducted by Palei (2015) on the impact of infrastructural development on the economic growth and worldwide competitiveness focused on Russia. The findings of the study that involved an assessment of key factors influencing competitive in terms of education and technological development indicated that the national competitiveness got impacted by the rate of institutional growth and the state of infrastructure among other factors. The researcher based the study on the existing models and aimed to assess the major infrastructural factors that influence national competitiveness which is by extension a function of education quality. The study only focused on competitiveness as a measure of infrastructural development and did not consider other factors which are equally crucial in determining the influence of infrastructural development. The researcher also assumed a case of perfect competition which is not ideal in many states of the world. The study methodology used would not measure the overall impact of the development in infrastructure for the entire county.

Brenneman and Kerf (2002) in their analysis of the influence of infrastructure on education in the United States found a direct positive impact of various types of infrastructure services (namely, roads, electricity, water and sanitation and telecommunications) on education indicators. The researchers used a modern methodology to find the link between poverty and level of education as well as how these related to the development of infrastructural facilities in the country. The outcomes of their assessment pointed out that a better transportation system and a safer road network (particularly in rural areas) help to raise school attendance (Brenneman & Kerf, 2002). The assessment, however, concentrated on finding the linkage amidst infrastructural development and school enrolment and failed to capture other important influences of growth in infrastructure. Secondly, the methodology used would not apply in the contemporary society given the changes in trends among parents and school authorities.

According to a study by Figueroa, Lim & Lee (2016), after the improvement of rural roads in the Philippines, general school enrolment went up by 10 percent and dropout rates fell by 55 percent. A critical analysis of the influence of infrastructural developments including school facilities indicated that there was a positive correlation between infrastructural development and school enrolment in the country. Hosni (1997)'s study on the role of Moroccan administration in improving educational results indicated that improvement of infrastructural facilities led to the increase in girls' enrolment s from 28 percent to 68 percent in less than 10 years (Hosni, 1997; Khandker, Law & Filmer, 1994). The quality of education also improved, as greater accessibility made it easier to hire teachers and facilitate commuting between rural and urban areas (Khandker *et al.*, 1994).

Similarly, researchers have found that greater access to safe water and sanitation in schools tends to raise attendance rates (particularly for girls) and the ability of children to learn, by enhancing their health. For instance, studies by Muendo (2016) and Murunga (2015) indicated that infrastructural facilities played a crucial role in increasing the rate of enrolment of pupils in schools. The researchers adopted descriptive research designs where diverse populations were targeted for the study. The aim of the studies was majorly to find out the influence of infrastructural facilities on school enrolment in Kenya. The outcomes pointed out to a common understanding that there existed a positive relationship amid infrastructural development and school enrolment s in Kenya.

Mokaya (2013)'s study on the effect of school infrastructure on the student performance in Kajiado County in Kenya revealed that improvement of school infrastructure positively impacted on the outcomes of the school especially on performance. The researcher utilized a descriptive research design and used a sample of 360 respondents to study and generalize for the entire school performance in Kajiado County. The study, however, focused only on the issue of performance and not on other educational aspects like school enrolment and retention. The current study aimed to cover this research gap by studying the influence of infrastructural facilities' development on the net enrolment rates of kids in ECDE centers in Samburu County.

2.3.2 School Facilities and Access

A growing body of research has found that school facilities can have a profound impact on both teacher and student outcomes. With respect to teachers, school facilities affect teacher recruitment, retention, commitment, and effort (Kashu, 2015). With respect to students, school

facilities affect health, behavior, engagement, learning, and growth in achievement (Mokaya, 2013). Thus, researchers generally conclude that without adequate facilities and resources, it is extremely difficult to serve large numbers of children with complex needs. Overcrowded classrooms and schools have consistently been linked to increased levels of aggression in students. For instance, overcrowded classrooms are likewise linked with reduced levels of student rendezvous and, consequently, declined learning levels (Marais, 2016; Muthusamy, 2015).

Alternatively, classrooms with ample space are more conducive to providing appropriate learning environments for students and associated with increased student engagement and learning (Marais, 2016). Classroom space is particularly relevant with the current emphasis on 21st century learning such as ensuring students can work in teams, learn problem solving skills, and communicate effectively. Classrooms with adequate space to reconfigure seating arrangements facilitate the use of different teaching methods that are aligned to 21st century skills. Creating private study areas as well as smaller learning centers reduces visual and auditory interruptions and is positively related to student development and achievement (Penn State University, 2019).

In many developing countries, the sanitary and hygienic conditions at schools remain appalling, with inadequate water supply and hand washing facilities. Schools that lack access to basic water supply and sanitation services tend to have a higher incidence of major childhood illnesses among their students. Improvements in those areas tend, therefore, to have a high payoff. According to Agénor (2013), in Bangladesh girls' attendance rates in schools rose by 15 percent as a result of developed access to water and sanitation amenities. In Morocco, the sharp increase in girls' enrolment rates cited earlier was in part due to enhanced access to water and hygiene in schools (Agénor, 2013). A number of micro studies have also found that access to electricity helps to improve the learning process, by allowing children to spend more time studying and by providing more opportunities to use electronic equipment (World Bank, 2008; Saghir, 2005).

A report by World Bank (2008) indicated that the number of pupils increased in many regions of Philippines following connection of their schools to the national grid. With the introduction of electricity, the report noted that the number of enrolment s increased by 9 percent and the reading time also increased from 5 hours a day to 8 hours a day. This contributed to improvement in class performance. Some schools in the country that had no access to electricity

have adopted other sources of power to ensure that the pupils stay in class and learn in an environment that is friendly and encouraging for them.

Saghir's (2005) study reiterated the important role energy played in eliminating poverty in developing countries. In the study, the researcher analyzed the influence of power in enhancing studies in most public schools and the subsequent performance of pupils. The researcher noted that schools that had access to electricity or at least a source of energy performed exceptionally well compared to those without access. The researcher concluded that school facilities are crucial in enhancing performance of schools and consequently help in mitigating high levels of poverty in developing countries.

Hyde (1989), defines a perfect environment as one in which girls and boys feel safe and able to achieve their full intellectual, physical and emotional potential in whatever that respects differences in gender. Cohen (1970) describes a school as an institution with dedicated staff gadget, formal and stereo typed means of instructions, a curriculum and rational defined platform objective. Kwesiga (2002) posited that school amenities determined the quality of the school which also impacts the attainment and enrolment rates of its pupils. Recent studies showed that lack of privacy for girls such as the absence or poor toilet facilities contribute to periodic truancy and ultimately lead to some girls dropping out of schools. The findings of a report by UNESCO (2008) have shown that availability of classrooms, teaching aids, and stationeries influence pupils' enrolment by encouraging them to report to school and stay in classes thereby increasing enrolment and retention rates (Kaburu, 2014).

Several studies have pointed to distance from Home to School as a key factor that influence access to ECDE in Kenya. According to a study carried out by UNESCO (2005), the proximity and access to regular school was determining factor on enrolment and transition. If distance between schools and home is far it may make education delivery difficult. Distance between schools and home affects children aged 7 and below because parents are afraid to let the young ones walk alone and they may be kept out of school unless there was someone to accompany them (Githinji & Kanga, 2011). Geographical distance between schools and homes results from sparse distribution of the population. Sparse population distribution is a significant obstacle limiting children's attendance in school. Low population density makes it difficult to gather enough pupils' population forcing schools to be distant apart for them to be cost effective. Research done in Ethiopia also pointed out that distance from home to school is an important factor in education access particularly in rural areas (Agembo & Cheptoo, 2017). The greater

the distance the less likely it is the child will attend. Long distance to school causes irregular attendance and temporary withdrawals from schools which in the long run led to dropping out from school (Mwenje–Macharia, 2015). Studies have shown that Children in urban areas have better chances for participating in ECDE programs than their rural counterparts because the pre-schools are near their homes and where schools are far, the children are transported by their economically able parents. Access according to geographical distance favors urban children (Busolo, 2017).

2.3.3 School Feeding Program

The school based Feeding Program has existed for long periods across the world. The World Food Program (WFP) has worked hand in hand with other stakeholders to make this provision (Chelagat, 2011). This has, however faced a number of challenges which include high levels of poverty, limited resources owing to the high number of children who need this help, poor road network to supply food which makes the logistics of the implementation of the SFP hard (Songa, 2011). In spite of these realities, SFP has been seen as a critical driver of school attendance and enrolment globally.

There was an increase in 15% on the number of females because of provision for mid-day meals (Shafii and Shafii, 2001). Additionally, in Armenia, the provision of food attracted 30,000 pupils to school. These pupils were from vulnerable families. Clearly, the role of School Feeding Program cannot be underestimated.

School Feeding Program (SFP) is important for human body growth and cognitive development (Maijo, 2019). Akanbi (2013) argues that children need the food provided in schools to meet the metabolic supplies of needed for body growth and brain development. The cognitive function is greatly improved; this has an effect on the learner's environment in that the feeding program has a direct effect on the regular attendance by the pupils. As a result, there is improved academic performance. The provision of the SFP has been seen to save healthcare cost among school going children (Chelagat, 2011).

The term school feeding has been used over the years to mean the provision of meals or snacks at school to reduce children's hunger and provide them with good learning environment during school day. According to World Food Programme (2004), school feeding has become an effective strategy in increasing school enrolment. The report added that school feeding is a double edge sword which, in addition to increasing school enrolment, contributes to

achievement of other development goals such as reducing child mortality through health and nutrition interventions.

Nations and international organizations have committed a lot of resources to school feeding programs. World Food Programme (WFP) was operating a comprehensive school feeding programs in sixty-eight countries in 2008 (Bundy *et al*. 2009). In the United States of America, the school feeding program is known as the National School Lunch Program and covers 99% of public schools (Hoynes & Schanzenbach., 2009).

In addition, Akwach (2008) observed that even in private pre-schools as is in public pre-schools, feeding programs enhanced children's retention in the private ECDEs as the enrolment s in such centers were either consistent or increasing. This outcome is reinforced by Mbugua (2013) who discovered that school feeding program might inspire parents to enroll children early and encourage regular attendance.

Munyiri (2010) sought to determine the impact of the School Feeding Program (SFP) on enrolment and performance of pre-school children in Kikuyu, Kiambu County. The researcher revealed that school meals are a favorable method of channeling vivacious sustenance to the kids which in turn helps promote the children's performance and improved the enrolment and attendance of preschoolers. Reviewed studies indicate that programs are not well implemented in pre-schools in Kenya. Majority of SFPs are found in private schools. This study therefore will be carried out in public pre-schools and it will seek to establish if SFPs exists and to what extent the SFP influences pre-school enrolment.

School feeding program has been found to effectively increase school enrolment and class attendance because children receive the meal only when they attend school (Dheressa, 2012). The opportunity cost of allowing a child to attend school varies across school days and seasons and this cost could even be higher than the expected benefit; for instance, in places where child labor forms the integral part of agricultural work during a particular day/season of a year, class attendance could be low. In such cases, school meals may or may not encourage attendance depending on how the beneficiaries value them. Thus, the value of the school feeding program relative to the difference between the cost and expected benefit of schooling also determines attendance (Adelman *et al.,* 2008).

2.3.4 Teaching Staff

According to Abiero (2009), in curriculum development, “good education comes from professional trained teachers”. Continuous engaging teachers through professional development, coaching, short courses help improve the way they interact with students. If a student feel engaged better in class, they will feel a better sense of belonging and purpose for the education they are undertaking.

Professional development interventions always support the educator/teacher’s engagement with the students which could have a direct impact on the pupil’s engagement which later affects attendance. For instance, emotional support, an aspect of teacher-child interactions, is thought to relate to children’s comfort and engagement in the classroom (Hamre, 2014). Improvements in emotional support could lead to better engaged pupils to exhibit greater enthusiasm with their parents about attending school, which could subsequently affect parents’ motivation to bring children to school consistently.

In most ECDE centers there is lack of enough trained teachers. A center handled by trained teachers is likely to have a higher enrolment as opposed to the one handled by untrained teachers. This is because of good supervision, better methodology and enough knowledge on what is supposed to be taught.

Training adds methods of teaching and benefits employees and the organization or school. For better and high graduation rate, then training is necessary for pre-school teachers (James, 2015).

Play is the best way in which children learn, therefore, a center without enough play materials will have low enrolment (Abider, 2009). The inadequacy of such facilities is a challenge to the county governments. Glewwe *et al.* (2003) noted that 20 percent of the time is lost because teachers normally absent themselves. The teachers often hold a second job. Teachers should be present all the time to engage the students in playing.

Glewwe *et al.* (2003) also added that creative play is a very important way of encouraging children to experiment and explore the world around them. The study has stressed on play and therefore act as a base of informing all the stakeholders that they should work as a team in order to attain better results (James, 2015).

2.3.5 Pupil Teacher Ratio and Pupils’ Enrolment (PTR)

Pupil teacher ratio (PTR) refers to the number of learners enrolled in a given level of education divided by the number of teachers in the system (Williams, 1979). According to Katunzi & Ndalichako (2004) teacher student ratio is a significant measure of quality in education because learners' progress through the curriculum may be hindered, a factor that may lead to dismal performance hence affecting pupils' enrolment. PTR is a significant measure of pupils' enrolment in the school.

The rates global attendance and enrolment of pupils in school have climbed upward over the past few years and the world moves closer to the goal of education for all, this issue of pupil teacher ratio attracts increasing attention. Having a high pupil teacher ratio results in poor academic achievement. This is a major hindrance to admission to quality high schools and institutions of higher education. In a context where the teacher is handling a large class, there is not ample time dedicated for the learning of each pupil. There also lies the challenge of comprehension as it is not possible to track whether the students are able to understand and conceptualize what they have been taught.

According to UNESCO (2006), the percentage of schools without a proper pupil to teacher ratio in the developing countries was at 84%. This is a worrying rate since the global standing is at 27%. Among those countries, the highest pupil-teacher ratio is found in Sub-Saharan Africa where the average teacher-pupil ratio is 46:1 compared to 14:1 as found in developed countries (UNESCO region circle, 2006)

The re-introduction of free primary education (FPE) in Kenya in 2003 led to increased enrolment at this level of education from 5.9 million pupils to 7.6 million. By 2011 enrolment stood at 63 percent increase rate in nine years (Kashu, 2015). This enrolment growth increased pupil teacher ratio (P.T.R) a factor that has been associated with the decreasing rate of pupils' enrolment.

At independence in 1963, Kenya was faced with challenges relating to the supply of trained human resources and access to educational opportunities at all levels of education. The Ominde commission of 1964 recommended that Primary education in the country should be made free (Republic of Kenya Ministry of Education, 2006; Kaburu, 2014).

2.4 Research Gaps Identified

From the foregoing review of literature, it has been discovered that most studies on the area of education and its determinants focused more on the role infrastructural developments and school facilities play in enhancing ECDE access and quality. Several studies focused on the school facilities and their influence on school enrolment (Mokaya, 2013; Marais, 2016; Muthusamy, 2015; Agénor, 2013; Palei, 2015; Githinji & Kanga, 2011). These studies did not, however, look at other factors that affect the enrolment of pupils or students, their performance as well as retention in school. Besides shifting the focus solely on the ECDE in Samburu, the study sought to establish the nexus between human resource and feeding programme to enrolment and retention.

Additionally, some reviewed studies focused solely on the influence of school feeding programs and quality of human resources (Schanzenbach, 2009; Akwach, 2008; Munyiri, 2010, Mbugua, 2013; Dheressa, 2011; Kashu, 2015; Adelman *et al.*, 2008; James, 2015), and failed to focus on the role of infrastructure and school facilities, in particular, the road network, which is critical in opening up inaccessible areas, and facilities such as classrooms that provide desirable learning environment. Supporting infrastructure comprising of storage, kitchen and sanitary blocks is also essential in facilitating proper functioning of the ECDE. Most of these studies utilized diverse methodologies and sampling designs which explains their varied findings and recommendations, by focusing on primary school education only, and across regions with different economic endowment and varying development levels. A few of the studies utilized the descriptive design but adopted different target populaces and sample sizes. None of the reviewed studies utilized a scope, design and sample size like the current study hence the need for this study to ascertain the findings under different sample size and methodology.

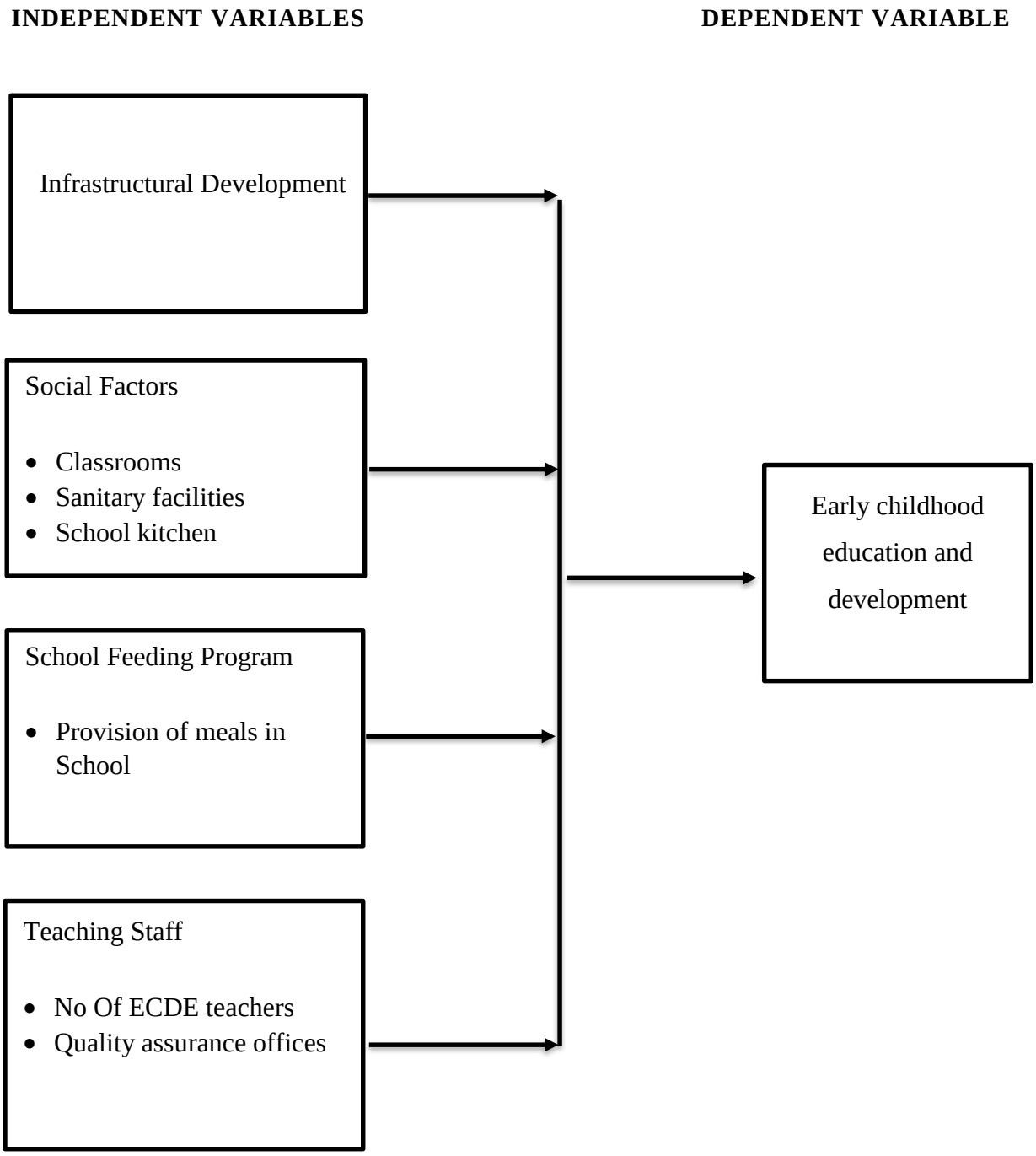
It was discovered from the literature review that none of the studies was conducted to find out the effect of the four variables of the study on the enrolment of pupils in ECDE centers. Furthermore, there was no research on the topic that was carried out in Samburu County to assess the state of ECDE centers in the region, before and after devolution. This is the research gap the current study aimed to fill by assessing the Impact of the Devolved Governance Intervention on Early Childhood Development and Education in Samburu County. The study covered a period of 10 years (2007-2012 and 2013-2020) which was ideal for comparison purposes because looked at the education state before and after devolution of ECDE.

2.5 Conceptual Framework

A graphical depiction of how the independent variables relate with the dependent variable. The following is the conceptual framework for the study. Figure 2.1 shows the interrelationship of various factors that influence the number of children accessing Early Childhood Education. These factors are interconnected to the extent that each category influence the chances of children enrolling in ECDE center. The conceptual framework depicts that the general infrastructure like access roads is an enabling factor to establish ECDE centers close to households, thus reducing the distance to learning institutions. Further, modern school infrastructure, deployment of qualified human resource and introduction of school feeding program is directly related to enrolment and retention in the early education cycle.

Education, health and nutrition are key dimension and important steps in early childhood development since they determine a child's ability to maximize his/her potential in the future. Education, health and nutrition equally play a pivotal role in human capital development…

Figure 2.1: Conceptual Framework



2.6 Operationalization of Variables

Table 2.1: Operationalization and Measurement of Variables.

Variable	Type of Variable	Indicators	Unit of Measurement	Data Collection Method
Early Childhood Development and Education	Dependent	Net enrolment of children in ECDE centers	Net enrolment rate of children in ECDE centers (ratio)	Questionnaire
Community infrastructural development	Independent	Availability Road networks Water boreholes Mobile service network	Ratio of the infrastructure developed at the community level	Questionnaire
County government investment on school facilities	Independent	Number of classrooms Kitchen and storage Sanitary facilities	Ratio of the facilities in the county and the enrollment	Questionnaire
School feeding program	Independent	Frequency of the meals Type of foodstuff Adequacy of food ration	Ratio of meals provided and the rations received by the pupils	Questionnaire
Teaching Staff	Independent	Number of ECDE teachers Training of ECDE teachers Number of Quality assurance officers	Ratio of the teaching staff available against the net enrollment	Questionnaire

Source: Author's calculation (2020).

2.7. Chapter Summary

The chapter discussed the relevant theories guiding the study in the theoretical review section and then focused on empirical literature guided by the four independent variables of the study. The chapter has discussed the relevant literature relating to the influence of county government on the quality of ECDE in the contemporary period. The theory of change discusses the components required for cognitive, behavioral, and physical development of the learner. This is measured through school facilities, school feeding programs and teaching staff. Further,

Maslows Hierarchy of Needs places food at the basic level. This must be met before students can develop cognitively. This variable is measured through the School Feeding Program. The theory of human capital focusses on teaching staff. The chapter concluded with a summary of the research gaps identified from the review, a conceptualization of the study variable and the operationalization and measurement of the study variables.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

The research design and methodology that the researcher used to gather requisite data is expounded in this chapter. Specifically, the chapter presents the research design, location of study, target population, sampling procedures, data collection, and instrumentation, sampling procedures, data analysis and presentation as well as ethical issues.

3.2 Research Design

This study adopted descriptive survey design. Kothari and Guarav (2014) submit that research design is a plan of collecting, organizing and analyzing data. According to Bell (1993), surveys are obtained, analyzed and the information compared.

The study sought to assess the impact of devolution on access/enrolment in early childhood development and education in Samburu County, Kenya. Specifically, interventions as a result of devolution are considered. These are: Community Infrastructure, School Facilities, School Meals and Staffing. The descriptive design was ideal for the research in order to better understand the trends in simplifying the acquisition of opinions, attitude, or behaviour held by the group of people on the study subject, in this case, teachers in the public ECDEs (Kothari & Garg, 2013).

3.3 Location of Study

The study was undertaken in the 207 public ECDE centers in Samburu County. Samburu County, Kenya has three sub-counties. These are: Samburu North, Samburu East and Samburu Central. It focused on four selected variables representing interventions as a result of devolution, these are community infrastructure, school facilities, school meals and staffing. The study sought to compare the period between the years 2007-2012 and 2013-2019. This takes consideration of the fact that actual devolution was rolled out in 2012 despite the adoption of the constitution in 2010.

3.4 Target Population of the Study

The focus of the study was all the ECDE centers. There are 546 public Early Childhood Education Centres in the county- being 207 in Samburu Central sub-county, 150 in East and 189 in North, (Samburu County 2018).

3.5 Sampling Procedure & Sampling Size

3.5.1 Sampling Procedures

The study targeted ECDE Centres of Samburu County. A stratified sampling system was used to select the sample. Sample was selected proportionately according to the number of ECDE Centres in all the three sub-counties. Then in each sub-county, a simple random sampling procedure was used to select the desired number of respondents.

The sample size was 30% of ECDE Centers. Kerlinger (2004), states that 30% of a population can constitute adequate sample and for this case, 30% of the 530 teachers in-charge was 159. Out of 159, 10% (16) that were randomly selected was reserved for piloting.

The sample was determined as follows:

Table 3.**1**: Sampling Framework

ECDE Center	**Total Number per Sub County**	**Sample**	**%of Sample**
Samburu Central	256	77	48.4%
Samburu East	150	45	28.4%
Samburu North	124	37	23.2%
Total	**530**	**30%=159**	

***Source**: Authors Calculations*

3.5.2 Sampling Size

As per the above table, the sampling size per cluster/ sub-county was:

Table 3.2: Sample Size

ECDE Center	Sample
Samburu Central	77
Samburu East	45
Samburu North	37
Total	**159**

Source: Authors Calculations

3.6 Data Collection Procedure

One of the tools for collecting primary data was use of a semi-structured questionnaire. A questionnaire is a research instrument consisting of a series of questions for the purpose of gathering information from respondents (Cooper & Schindler, 2014). They were self-reporting questionnaires administered for each ECDE center, with the head teachers being the respondents providing information required for each center, where there was need for clarification, they were guided by the research assistants. The questions had both open and close-ended structured and aligned to the objectives of the study. This alignment helped to see the trends on the impact of ECD&E in the County.

The questionnaires were structured questionnaires i.e., they have questions and answers which are specified and comments in respondent's own words are held to the minimum (Kothari 2014). Furthermore, the questions have the same wording and are in the same order to all respondents. The purpose of this is to standardize the questions to ensure that all respondents reply to the same set of questions (Kothari 2014).

According to, Hyman and Sierra (2016), closed-ended items are easy and quick for the respondents to answer and easy to code and statistically analyze for the researcher. The open-

ended items give the respondents an opportunity to freely express their opinion to the items provided. The closed-ended items used a 5-point Likert scale where the respondents rated the impact of ECDE in Samburu County. On the open-ended items, the respondents wrote their own opinion on how various stakeholders can help students in their career choices. The researcher randomly distributed the questionnaires to the teachers in-charge of the ECDE Centers in public schools. The researcher explained the purpose of the questionnaire that it was for academic reasons and only those who consented were included.

The questionnaires were administered by competent research assistants. This ensured that the data gathered was handled well, and time constraint was avoided. Screening was done to ensure the respondents have those who worked in the centers before 2013 and can be able to produce records of what facilities were available at the time.

After clearance from Strathmore Business School and the National Commission for Science, Technology and Innovation (NACOSTI), the researcher sought authorization from the County Director of Education with the intent of gathering data from teachers in the public ECDEs. This was followed by a preliminary meeting with the research assistants to discuss the appropriate dates, aligning with the school calendar so that we do not get teachers at home, for the dissemination of the questionnaires and timelines expected. This was later communicated to the Director, County Department of Education and the particular school heads to ensure the availability of respondents.

On the actual day agreed upon the parties and the availability of respondents, the researcher met with the research assistants, allocated them the specific schools, issued them with questionnaires and the list of the respondents selected. These respondents had met the selection criteria earlier discussed. The dissemination took five days to cater for the respondents not available and to be able to reach, as much as possible, the target audience. After this, the questionnaires were collected and returned to the researcher for analysis.

The questionnaire contained both closed and open-ended questions. The questionnaires sought information on teachers' bio-data, center enrolment, and the four study variables, viz. Community Infrastructure, School Facilities, School feeding program, and Human resources.

3.7. Validity and Reliability of Research Instruments

3.7.1 Validity of Research Instrument

According to De Vellis (2016), the validity of an instrument refers to appropriateness of a mechanism to measure what it intends to measure. Content validity was the main concern. Experts in area of education management and leadership analyzed each item so as to ascertain content validity. They analyzed phrasing, coverage of content as well as irrelevant items which were replaced. A review of the initial data from the piloting stage provided an opportunity to strengthen and revise the questionnaire to guarantee admissibility of the data collected.

3.6.2: Reliability of Research Instrument

Reliability is a measure of the proportion of the variance of the score on a test when administered many times (De Vellis, 2016). It determines the degree of consistency of the research instrument; it asks the question: will the instrument return the same score when administered many times (Dikko, 2016).

The study used Cronbach's Alpha (α) test in determining reliability of research instrument. For this research, the suggested value of 0.6 was used as a reliability cut-off. To be accurate, the Cronbach alpha value must be at least 0.6 or greater. Table 3.3 indicates Cronbach's Alpha of 0.653, which was greater than 0.6. Therefore, all the questions in the questionnaire were considered reliable.

Table 3.3: Statistical Reliability

Cronbach's Alpha	N of Items
0.653	40

3.8 Data Analysis

Data was analyzed in two phases in this study. To start with, the data was inspected using descriptive statistics such as frequency distribution, measures of central tendencies (mean and standard deviation). The information was displayed by the use of tables, bar charts, graphs, pie charts and variable analysis. Additionally, data was also interpreted in prose to ensure ease of interpretation. These descriptive statistics are useful in analyzing the variables for this study.

After this is concluded, the second phase was an analysis of the data collected from the questionnaires to check for accuracy and reliability of the data gathered. Later, the questionnaires were coded using the Statistical Package for Social Sciences (SPSS) version 23 in line with the identified variables of the study. The analysis tool, SPSS, ensured the margin

of error was minimized and high levels of accuracy are attained. A correlation analysis was used to define the level of association of variables. This statistical tool was further utilized to analyze the strength of the relationships between the independent and dependent variables.

The study employed the following multiple regression model proposed by Torres-Reyna (2007) to analyze and interpret data:

$$\mathbf{Y = B_0 + B_1X_1 + B_2X_2 + B_3X_3 + B_4X_4 + e}$$

Where;

Y = Early Childhood Education & Development,

$\mathbf{X_1}$ = Community Infrastructural Development,

$\mathbf{X_2}$ = School Facilities,

$\mathbf{X_3}$ = School Feeding Program

$\mathbf{X_4}$ **=** Teaching staff

$\mathbf{B_0}$ = the constant (y-intercept)

$\mathbf{B_1}$ = slope (regression coefficient) for variable X_1

$\mathbf{B_2}$ = slope (regression coefficient) for variable X_2

$\mathbf{B_3}$ **=** slope (regression coefficient) for variable X_3

$\mathbf{B_4}$ **=** slope (regression coefficient) for variable X_4

e = Error term

Further, an observation checklist was used for observations on community infrastructure, ECD facilities, and ECD teaching and learning materials. The recall method was adopted in this phase. In addition, screening was done to ensure the respondents were those who worked in the centers before 2013 and were able to produce records of what facilities were available at the time.

3.9 Ethical Considerations

Research ethics affects merits and quality of data (Masic, Hodzic & Mulic, 2014). Ethical consideration should be given due attention in an ethically responsible manner (Robson, 2002). Undertaking and reporting the research must be done in consideration of fairness, reverence for fact and respect for persons. Authorization to carry out the research was acquired as required by law. The researcher sought clearance from the Institutional Ethical Review Committee at

Strathmore University then proceeded to acquire a research permit at the National Commission of Science, Technology & Innovation.

Informed consent was asked from the respondents. Assurance of confidentiality in handling of information was given to the respondents. Anonymity was maintained as required by Cohen, Manion and Morrison (2010).

CHAPTER FOUR

PRESENTATION OF RESEARCH FINDINGS

4.1 Introduction

This chapter presents the results and findings of this study as set out in the research objectives and research methodology. The aim of this study was to *"Assess the effect of devolution on enrolment to early childhood development and education (ECDE) in Samburu County"*. In particular, the study sought to establish the effect of community infrastructural development on enrolment to ECDE in the advent of devolution in Samburu County, Kenya; to assess the impact of county government investment on school facilities on enrolment to ECDE in Samburu County; to assess the influence of the introduction of school feeding program, by the County Government, on enrolment to Early Childhood Development and Education (ECDE) in Samburu County, Kenya; and to determine the effect of staffing/human resource by the County Government on enrolment to ECDE in Samburu County. The first section of this chapter covers descriptive statistics of the data while the second section provides analysis on the four objectives of this study.

4.2 Descriptive statistics of the data

4.2.1. The Rate of Response

The researcher administered 159 questionnaires to the target ECDE centers, and managed to get 100% response rate. This means that all the 159 questionnaires were properly filled and successfully returned. The questionnaires were filled when the schools were in session thus the availability of the teachers.

4.2.2 Demographic Information

The respondents were from the ECDE Centers as presented below:

Table 4.1: Demographic Information

ECDE Center	Sample
Samburu Central	77
Samburu East	45
Samburu North	37
Total	**159**

4.2.2.1: ECDE Center Enrolment

Table 4.2: ECDE Center Enrolment before and during devolution

		N	Minimum	Maximum	Mean	Std. Deviation
Before devolution	Girls	155	4	65	18.1742	10.1131
	Boys	155	2	42	15.3097	7.85962
After devolution	Girls	156	5	184	37.2821	26.0721
	Boys	156	3	116	36.859	22.4538

The findings in Table 4.2 indicate that before devolution, the average number of girls' enrolment to ECDE centers was slightly higher than that of boys. Similar trend was observed after devolution where the number of girls enrolled to ECDE centers was higher than that of boys.

4.2.2.2: Distance from the nearest other ECDE Center

The respondents were asked to indicate the distance from the nearest other ECDE center in kilometers.

Table 4.3: Distance indicate before and after devolution

	N	Minimum	Maximum	Mean	Std. Deviation
Distance before Devolution (KM)	159	0.2	20	4.694	4.0621
Distance after Devolution (KM)	159	0.1	16	3.755	3.2497

The findings in Table 4.3 indicate a mean of 3.755 km implying that on average ECDE centers were 3.8 kms apart. Having ECDE centers not far apart is important since it gives parents the option of taking their children to the center of their choice. Further, it prevents over population of certain centers, which could compromise on quality of education.

4.3 Descriptive Analysis Results

This section presents descriptive statistic findings related to the four independent variables: community infrastructural development, school facilities, school feeding program and staffing/human resource.

4.3.1 Community Infrastructural Development

The respondents were asked to list new infrastructural development that have been done in the surrounding area within the time period 2013-2019, the respondents mentioned a number of items namely: classrooms, boreholes, dams, roads, health facilities, toilets, water tanks, kiosks, bridges, fences and markets. This implies that during the period stated above (devolution), several infrastructural developments have been done in Samburu County. This kind of infrastructural development is expected to influence ECDE access/enrolment within the County.

Further, when asked to compare infrastructural development before and after devolution, majority of the respondents noted that there is more development now in terms of number of classrooms, boreholes, dams, roads, and health facilities prior to devolution.

Further, the respondents were asked to specify whether the following facilities - roads, water and mobile service network had been initiated in the region around the centre in the period 2013-2019.

Table 4.4: Community Infrastructure Development Before Devolution

		Frequency	**Percent (%)**
Roads	No	77	37.5
	Yes	81	62.5
	Total	**158**	**100**
Water	No	96	60.8
	Yes	62	39.2
	Total	**158**	**100**
Mobile service network	No	102	65
	Yes	59	35
	Total	**157**	**100**

Table 4.5: Community Infrastructure Development After Devolution

		Frequency	**Percent (%)**
Roads	No	39	24.7
	Yes	119	75.3
	Total	**158**	**100**
Water	No	69	43.7
	Yes	89	56.3
	Total	**158**	**100**
Mobile service network	No	33	21
	Yes	124	79
	Total	**157**	**100**

The findings in Table 4.5 indicate that majority of the respondents (75.3%) agreed that roads had been initiated in the region around the center. Also, 56.3% noted that there was water in the region around the center, specifically, boreholes. Further, 79% of the respondents cited that there was mobile service network (Safaricom) in the region around the center. This implies that there have been improvements in infrastructural development in form of roads, water supply and telecommunication services in the region.

4.3.2 School Facilities

The respondents were asked to indicate the number of classrooms that were there before devolution (2005-2012) and currently (2013-2019).

Table 4.6: Number of Classrooms

	N	Total Number
Number of classrooms 2005-2012	159	112
Number of classrooms 2013- 2019	158	224

The findings in Table 4.6 reveal that prior to devolution; the total number of classrooms in all the ECDE centers was 112. After devolution, the number of classrooms doubled to 224. It is assumed that an increase in classroom numbers will result to increase in enrolment of children to ECDE centers.

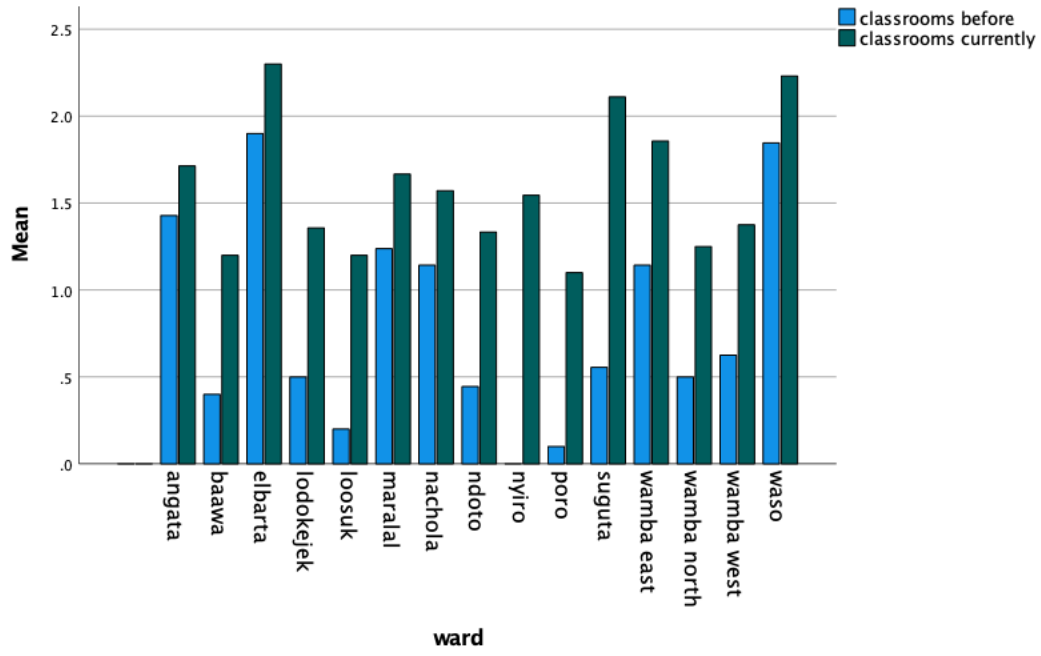


Figure 4.1: Number of classrooms per ward before and currently

The graphical presentation in Figure 4.6 indicates that Nyiro division had the highest variance in classrooms availability before and after devolution, whereas Angata, Elbarta and Waso had relatively the least. The case of Nyiro division could be ascribed to negligence and lack of concern by previous leaders to improve ECDE. In the areas where the disparity is small, it means that the previous leaders made effort to develop ECDE and the current leaders are also doing the same.

The respondents were asked to specify who funded construction of the classrooms. Majority of respondents (59.1%) indicated county government; 16.4% indicated catholic missions; 6.9% indicated child fund organization while 5.7% indicated parent organization. According to the County Fiscal Strategy Paper (CFSP) 2020/21, the funding mix is at a cost of Ksh.150M. In 2021/22, the CFSP envisions an expenditure of about 600M on education, which will be funded through the county budget and other development partners. This is 12% of the total county budget. The funding will cater for construction of classrooms, sanitary blocks, enhancing the school feeding program, purchase of competency-based curriculum books and school furniture.

The respondents were asked to indicate whether the number of classrooms was adequate. Results are shown in Table 4.7

Table 4.7: Adequacy of Classrooms

	Frequency	**Percent (%)**
No	87	54.7
Yes	72	45.3
Total	**159**	**100**

The findings in Table 4.7 indicate that majority of the respondents stated that the classrooms though available now, unlike before devolution, were still not adequate. An ideal number of students per classroom is twenty-five (25) according to Early Childhood Development Services Standards for Kenya (2006, p.6). This paper by the government has been created in line with other global standards such as 1989 United Nations Convention on the Rights of the Child (CRC), the 1990 Jomtien World Conference on EFA, the 2000 World Education Forum (Dakar, Senegal) and 2000 Millennium Development Goals (MDGs).

Before devolution, the average number of pupils in a class were 34 while after deveolution, the number has almost doubled to almost 64 (See Table 4.2). This number is high for a standard classroom, which is eight by six metres which is supposed to accommodate 25 pupils.. Inadequate classrooms is thus viewed when the enrollment is beyond twenty-five without additional classroom units, which could be a hindrance to enrolment of more pupils into ECDE centers. According to Mokaya (2013), without sufficient facilities and resources, it gets difficult to serve large numbers of children with diverse needs. Overcrowded classrooms and schools have consistently been linked to increased levels of aggression in students.

Overcrowded classrooms are likewise linked with reduced levels of student rendezvous and, consequently, declined learning levels (Marais, 2016; Muthusamy, 2015).

Table 4.8: Availability of Kitchen, Toilets, and Perimeter Fence

		Before Devolution		After Devolution	
		Frequency	**Percent (%)**	**Frequency**	**Percent (%)**
Kitchen	Not available	91	83.7	89	56
	Available	26	16.3	28	17.6
Toilets	Not available	94	82.4	63	39.6
	Available	28	17.6	59	37.1
Perimeter Fence	Not available	124	91.2	93	58.5
	Available	14	8.8	45	28.3

The findings in Table 4.8 reveal that, 26 respondents, comprising 16.3%, noted that kitchen in their centers was constructed before devolution while 28 respondents (17.6%), cited that kitchen in their centers was constructed after devolution. On the other hand, 56% of the respondents noted that there was no kitchen in their ECDE centers before and after devolution. 28 (17.6%) respondents stated toilets were constructed before devolution while 59 (37.1%) respondents indicated that toilets were constructed after devolution. However, 39.6% of the respondents noted that there were no toilets in their ECDE centers. In addition, 14 (8.8%) respondents stated that perimeter fence in their center was constructed before devolution while 45 (28.3%) stated that perimeter fence was constructed after devolution. Nonetheless, 58.5% of the respondents stated that there was no perimeter fence in their center.

Comparison of the two periods reveals more respondents cited that kitchen, toilets and perimeter fences in most centers were done after devolution. School facilities including kitchens, toilets and perimeter fences are vital in boosting enrolment in ECDE centers. If these amenities are not availability, then the level of enrolment is likely to be below the average. However, availability of these amenities will likely motivate parents to enroll their children into ECDE centers.

4.3.3 School Feeding Program

The researcher wanted to know whether the centers had feeding programs prior to devolution and whether they have the feeding program now.

Table 4.9: Existence of School Feeding Program

		Frequency	Percent (%)
Before (2005-2012)	No	61	38.4
	Yes	98	61.6
	Total	**159**	**100**
After (2013-2019)	No	20	12.6
	Yes	139	87.4
	Total	**159**	**100**

Results in Table 4.9 indicate that majority, 61.6% of the respondents noted that their centers had feeding programs prior to devolution. Further, 87.4% of the respondents cited that they currently have a feeding program in their centers. This implies that more centers now have feeding programs compared to the period before devolution.

The respondents were asked to indicate who provides the feeding program in their centers; majority of them mentioned county government, followed by World Food Program, national government and Child Fund.

Further, the respondents were asked to state the type of food stuffs provided under the feeding program, and they mentioned rice, beans, maize, porridge, cooking oil and salt.

The respondents were asked to indicate how often they get food rations. Results are shown in Table 4.9.

Table 4.9: Food Rations

	Before Devolution		**After Devolution**	
	Frequency	**Percent (%)**	**Frequency**	**Percent (%)**
Once per week	52	34.0	2	1.3
Twice per week	15	9.8	1	0.7
Once per month	29	19.0	11	7.2
Every day	57	37.2	139	90.8
Total	**153**	**100**	**153**	**100**

The findings in Table 4.9 indicate that 90.8% of the respondents noted that they get food rations every day. This implies that there is provision of food rations to ECDE centers every day. Availability of food rations is likely to boost enrolment and retention of learners in the centers.

Further, respondents were asked to state whether the rations were adequate. Majority, 76.5 percent of the respondents said that the food rations were adequate. However, 24 percent of the respondents felt that the rations were not adequate. Adequacy of the food rations can be attributed to different providers including the county government, national government, world food program and child support organization.

Table 4.10: Adequate Food Rations

	Before Devolution		**After Devolution**	
	Frequency	**Percent (%)**	**Frequency**	**Percent (%)**
No	105	68.6	36	23.5
Yes	48	31.4	117	76.5
Total	**153**	**100**	**153**	**100**

4.3.4 Teaching Staff

The respondents were asked to indicate the number of teachers in the center prior to devolution (2005-2012) and currently.

Table 4.11: Number of Teachers

		N	**Min**	**Max**	**Mean**	**Total number**	**Std. Deviation**
Before devolution	Female teachers	159	0	5	0.81	113	1.028
	Male teachers	159	0	2	0.31	43	0.503
During devolution	Female teachers	158	0	6	1.03	145	1.131
	Male teachers	159	0	2	0.57	81	0.579

The findings in Table 4.11 reveal that before devolution, the total number of female teachers in all the centers was 113 and male teachers were 43. Results further indicate that after devolution, the number of female teachers has increased to 145 and that of male teachers to 81.

The increase in number of teachers is expected to boost the enrolment of more children into ECDE centers. This is because, with more teachers, it is possible to manage more children.

Respondents were also asked to enumerate trained and untrained teachers. Results are as shown in Table 4.12

Table 4.12: Trained and Untrained Teachers

	Female trained teachers	Male trained teachers	Total	Untrained female teachers	Untrained male teachers	Total
Before devolution (2005-12)	21	1	**22**	3	0	**3**
During Devolution (2013-present)	133	87	**220**	21	7	**28**

Based on findings in Table 4.12, the total number of trained male and female teachers before devolution was 22. This number increased to 220 following devolution. Increase in number of trained teachers is expected to boost quality of education and overall enrolment level. Trained teachers are able to deliver quality content to learners. They are also capable of managing more children as opposed to untrained teachers. According to the result, the number of untrained teachers was relatively low in both periods in comparison to the trained teachers.

Further, respondents were asked to state their term of employment. Results are illustrated in table 4.13.

Table 4.13: Employment term of teachers

	Female permanent	Male permanent	Total	Female contractual	Male contractual	Total
Before devolution	14	1	**15**	10	0	**10**
During devolution	124	81	**205**	14	11	**25**

The findings in Table 4.13 indicate that the total number of permanent male and female teachers before devolution was 15. This number increased to 205 after devolution. Further, results reveal that the number of contractual/casual male and female teachers before devolution was 10 and after devolution the number rose to 25. Job security is vital in boosting individuals' productivity. This means that if teachers' jobs are secure, then they are likely to be more

productive in terms of content delivery to learners. Therefore, the increase in the number of permanent teachers is expected to boost quality of education as well as enrolment level to ECDE centers.

The respondents were asked to specify their employer in the center. Majority, 98%, of the respondents stated County government. The rest stated parent association and churches respectively.

Table 4.14: Teachers' Employer

	Before Devolution		**After Devolution**	
After Devolution	**Frequency**	**Percent (%)**	**Frequency**	**Percent (%)**
National government	109	68.6		
County government			156	98.1
Parent Association	43	27.0	2	1.3
Churches	7	4.4	1	0.6
Total	**159**	**100**	**159**	**100**

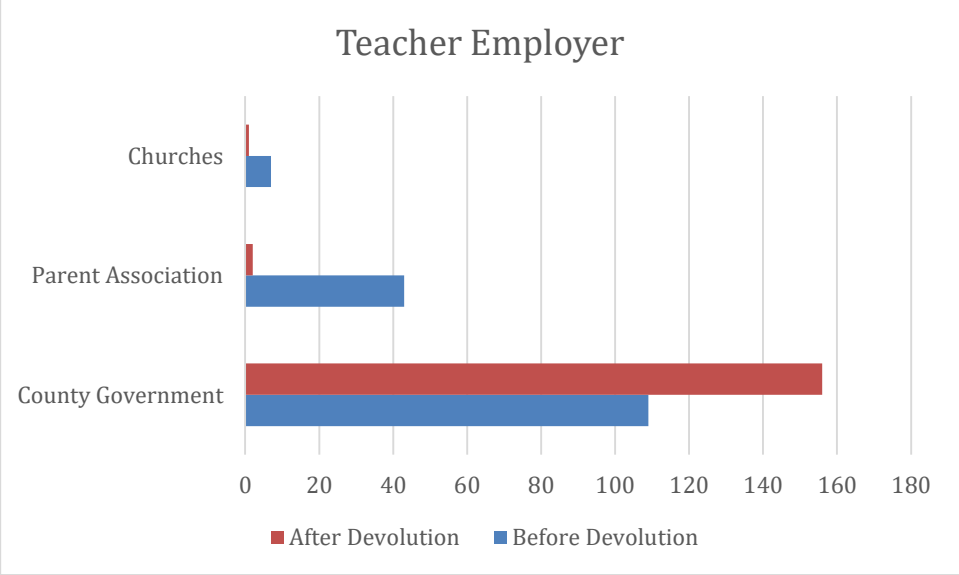


Figure 4.2: Teacher's Employer

The respondents were further asked whether the teaching staff had received staff development training. Results are shown in Figure 4.3.

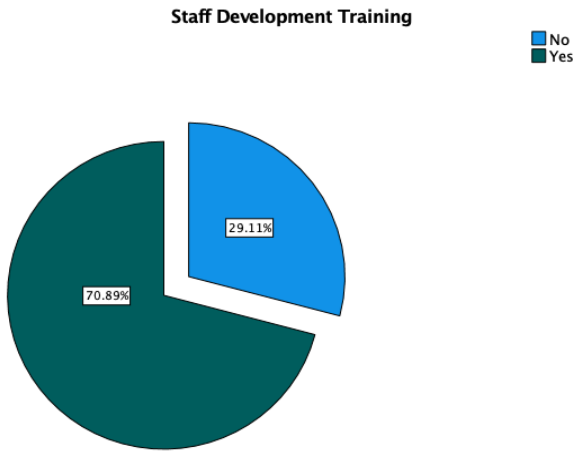


Figure 4.3: Staff Development Training

The findings in Figure 4.3, reveal that 71 percent of the respondents noted that teaching staff had received staff development training. However, the rest cited that teaching staff had not received staff development training. Staff development training is essential in enhancing their teaching and student management skills. With increase in learners' enrolment, teaching and management skills are necessary.

The researcher wanted to know whether the teaching staff had been trained on Competency Based Curriculum (CBC). Findings are shown in Figure 4.4.

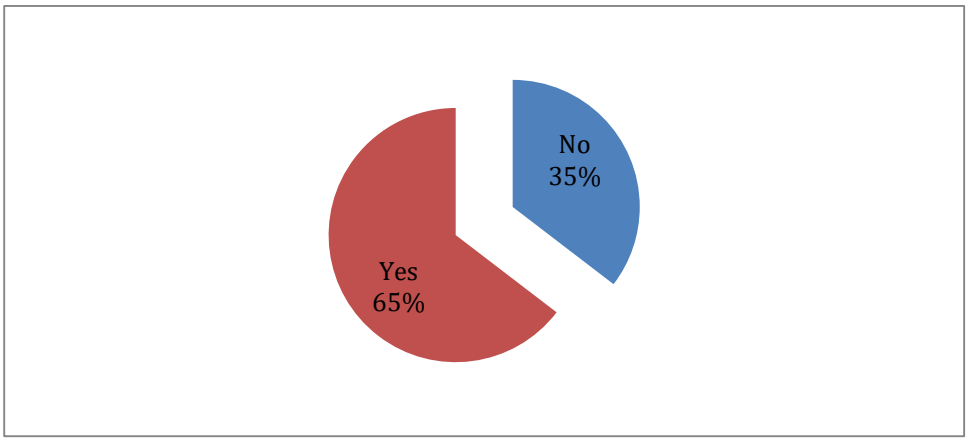


Figure 4.4: CBC Training

Two third of the respondents indicated that teaching staff had been trained on CBC while the rest of the respondents said that teaching staff had not been trained on CBC. Training teachers on CBC is vital in the realization of the CBC objectives. One of which is ensuring that teaching is learner oriented.

Results in Table 4.15 indicate that in most ECDE centers, at least one teacher had been through CBC training. The total number of teachers who had gone through CBC training in all the centers was 162.

Table 4.15: Number of teachers trained on CBC

	N	Minimum	Maximum	Mean	Total	Std. Deviation
How many	91	0	4	1.44	162	0.718

The respondents were asked to specify the support staff that the Centre have. Findings are shown in Table 4.16.

Table 4.16: Support staff

		Before Devolution		**After Devolution**	
		Frequency	**Percent (%)**	**Frequency**	**Percent (%)**
Cooks	No	95	60.1	74	46.8
	Yes	63	39.9	84	53.2
	Total	**158**	**100**	**158**	**100**
Guards	No	134	84.8	123	77.8
	Yes	24	15.2	35	22.2
	Total	**158**	**100**	**158**	**100**

A higher number of the respondents indicated that there were cooks in the centers. On other hand, over 70 percent of the respondents noted that there were no guards in the centers. Support staff is essential in running of the centers.

The respondents were requested to give their view on the impact of staffing on ECDE enrolment in their centers, majority of them noted that staffing encourages teamwork, quality

education is provided, adequate staffing brings higher enrolment and makes managing work easier. This implies that staffing is essential in enhancing ECDE enrolment.

The respondents were asked whether training of ECDE teachers impact their delivery of the ECDE content. Findings in table 4.17 reveal that all the respondents agreed that training of ECDE teachers has an impact on their delivery of the ECDE content.

Table 4.17: Delivery of the ECDE content

	After Devolution		**Before Devolution**	
	Frequency	**Percent (%)**	**Frequency**	**Percent (%)**
Yes	157	100	157	100
Total	157	100	157	100

The respondents were asked whether teacher: pupil ratio affect the delivery of content and quality of education in the centers. Majority of the respondents noted that having too many learners, but few teachers compromises delivery of content and quality of education in the centers. They expressed concerns that in most of the centers the number of pupils was much high compared to teachers. This implies that the delivery of content and quality of education in the centers could be affected.

Further, the respondents were asked whether adequate staffing of the center influence the delivery of quality education and grow access to early childhood education in the region. Most of the respondents agreed that adequate staffing was critical in influencing delivery of quality education and increasing access in the region. They observed that adequate staffing would result to better quality education since there would be enough teachers to manage the number of learners. This means that adequate staffing plays a significant contribution in delivery of quality education and increasing access/enrolment to ECDE.

Additionally, the respondents were asked to rate the extent to which the following variables influence ECDE Access / Enrolment, for the provided periods.

Table 4.18: Rating of the Level of Influence on ECDE Access / Enrolment

		Good		Average		Poor/Non-existent	
		Count	Percent	Count	Percent	Count	Percent
2005-2012	Community infrastructure	8	5.1%	63	39.9%	87	55.1%
	School facilities	8	5.1%	71	44.9%	79	50.0%
	School meals	18	11.4%	59	37.3%	81	51.3%
	Staffing	13	8.2%	48	30.4%	97	61.4%
2013-2019	Community infrastructure	64	40.5%	68	43.0%	26	16.5%
	School facilities	85	53.8%	61	38.6%	12	7.6%
	School meals	88	55.3%	68	42.8%	3	1.9%
	Staffing	92	57.9%	62	39.0%	5	3.1%

For the period 2005-2012, 55.1% of the respondents rated the influence of community infrastructure on ECDE Access / Enrolment as poor, 50% rated school facilities as poor, 51.3% rated school meals as poor and 61.4% rated staffing as poor. Further, for the period 2013-2019, 43% and 41% of the respondents rated the influence of community infrastructure on ECDE Access / Enrolment as average and good respectively. 53.8% rated school facilities as good, 55.3% rated school meals as good and 57.9% rated staffing as good. This implies that the rating of the variables and their influence on ECDE Access / Enrolment improved from 2005-2012 to 2013-2019 period. This means that currently (with devolution); community infrastructure, school facilities, school meals and staffing have more influence on ECDE Access / Enrolment compared to before devolution.

4.4. Correlation Analysis

This section provides findings on the correlation between the independent variables (community infrastructural development, school facilities, school feeding program, staffing/human resource) and the dependent variable (ECDE enrolment) based on teacher perceptions.

Table 4.19: Correlation Results

Correlations

		Totalenrollment	Roads	mobile service network	classrooms currently	kitchen	toilets	feedingprogramNOW	Food rations	Totalteachersnow
Totalenrollment	Pearson Correlation	1								
	N	156								
Roads	Pearson Correlation	.135	1							
	Sig. (2-tailed)	.093								
	N	155	158							
mobile service network	Pearson Correlation	.055	.080	1						
	Sig. (2-tailed)	.497	.320							
	N	154	156	157						
classrooms currently	Pearson Correlation	.268	.031	.132	1					
	Sig. (2-tailed)	.001	.695	.100						
	N	155	157	156	158					
kitchen	Pearson Correlation	.329	-.051	.135	.244	1				
	Sig. (2-tailed)	.000	.526	.091	.002					
	N	156	158	157	158	159				
toilets	Pearson Correlation	.214	-.099	.223	.310	.434	1			
	Sig. (2-tailed)	.007	.214	.005	.000	.000				
	N	156	158	157	158	159	159			
feedingprogramNOW	Pearson Correlation	.036	.091	-.048	-.082	.031	.003	1		
	Sig. (2-tailed)	.652	.255	.554	.306	.700	.971			
	N	156	158	157	158	159	159	159		
Food rations	Pearson Correlation	.085	.149	.216	.056	.094	.094	.115	1	
	Sig. (2-tailed)	.300	.066	.008	.495	.247	.246	.159		
	N	150	152	152	152	153	153	153	153	
Totalteachersnow	Pearson Correlation	.406	.077	.096	.487	.332	.301	.122	.067	1
	Sig. (2-tailed)	.000	.341	.232	.000	.000	.000	.127	.411	
	N	155	157	156	157	158	158	158	152	158

** Correlation is significant at the 0.01 level (2-tailed).
Correlation is significant at the 0.05 level (2-tailed).

Correlations for Before Devolution

		Roads	mobile service network	classrooms before	feedingprogram BEFORE	female teachers b4 devolution	male trained teachers
Roads	Pearson Correlation	--					
	N	158					
mobile service network	Pearson Correlation	.080	--				
	Sig. (2-tailed)	.320					
	N	156	157				
classrooms before	Pearson Correlation	.102	.188*	--			
	Sig. (2-tailed)	.203	.018				
	N	158	157	159			
feedingprogramBEFORE	Pearson Correlation	.066	.006	.252**	--		
	Sig. (2-tailed)	.408	.943	.001			
	N	158	157	159	159		

female teachers b4 devolution	Pearson Correlation	.109	.113	.543**	.279**	--	
	Sig. (2-tailed)	.174	.157	<.001	<.001		
	N	158	157	159	159	159	
male trained teachers	Pearson Correlation	-.007	-.146	-.128	-.179*	-.364**	--
	Sig. (2-tailed)	.928	.068	.108	.024	<.001	
	N	158	157	159	159	159	159

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

Findings in Table 4.19 indicate that there is a positive relationship between roads, mobile service network and ECDE enrolment. However, this relationship is not statistically significant as indicated by p values (0.093, 0.497), which are greater than 0.05 at 95 percent confidence level. The findings imply that the change in community infrastructural development (roads, boreholes, mobile service network) has not significantly influenced ECDE enrolment in Samburu County. This could be explained by the way the infrastructural developments are utilized, it's perceived that infrastructural development is more for market and access purposes rather than influencing enrolment through school development and the associated supply line. Further, underutilization of infrastructural developments, for purposes dedicated to improving enrolment could explain why they do not have a significant influence on ECDE enrolment in Samburu County.

Further the findings indicate a weak positive and significant relationship between number of classrooms and ECDE enrolment. This was supported by a correlation value of 0.268 and a p value of 0.001<0.05. The findings imply that increase in number of classrooms is accompanied by increase in enrolment to ECDE.

Results also revealed that there is a weak positive and significant relationship between availability of kitchen and ECDE enrolment. This was supported by a correlation value of 0.329 and a p value of 0.000<0.05. The findings imply that availability of a kitchen in a center is accompanied by increase in enrolment to ECDE.

Further, findings revealed that there is a positive and significant relationship between sanitary facility and ECDE enrolment. This was supported by a correlation value of 0.214 and a p value of 0.007<0.05. The findings imply that availability of sanitary facility is accompanied by increase in enrolment to ECDE.

Results indicated a positive relationship between feeding program, food rations and ECDE enrolment. However, this relationship is not statistically significant as indicated by p values (0.65, 0.30), which are greater than 0.05 at 95 percent confidence level. The findings imply that the change in school feeding program has not significantly influenced ECDE enrolment in Samburu County.

Lastly the findings indicate that there is a positive relationship with a correlation value of 0.406 between number of teachers and ECDE enrolment. This relationship is significant at 1% (p value of 0.000<0.01). Even though the correlation is less than 0.5, there is an implication that enrolment to ECDE increases with the number of teachers.

4.5. Multiple Regression Analysis Results

This section provides multiple regression model results on the relationship between the independent variables (infrastructural development, number of classrooms, school feeding program and total number of teachers) and dependent variable (ECDE enrolment) in Samburu County. The general objective of the study was to assess the effect of devolution on enrolment to ECDE in Samburu County. A comparison of the effect of devolution (before and after) on enrolment to ECDE in Samburu County was conducted. The results are shown in Table 4.20 and 4.21, respectively.

Table 4.20: Regression analysis before devolution

Variable	B	Std. Error	Beta	t	Sig.
(Constant)	27.837*	3.243		8.585	.000
Infrastructural Development	.986	1.893	.040	.521	.603
Number of Classrooms	2.283	1.559	.143	1.465	.145
School Feeding Program	-2.991	2.713	-.089	-1.102	.272
Total number of Teachers	3.154**	1.474	.211	2.139	.034
R square	0.096				
Adj. R square	0.073				
F statistic	4.105				
Sig (F statistics)	0.003*				

*1% Significance Level; **5% Significance Level

The findings in Table 4.20 indicate that before devolution, the total number of teachers had a positive and significant effect on ECDE enrolment in Samburu County (B=3.154, P=0.034). However, infrastructural development, number of classrooms and school feeding program had

no significant effect on ECDE enrolment in Samburu County (p value> 0.05). The R square of 0.096 denotes that jointly, all the independent variables before devolution accounted for 9.6% of total changes in ECDE enrolment in Samburu County.

Further, the findings in Table 4.21 indicate that after devolution, all the independent variables except total number of teachers had insignificant effect on ECDE enrolment in Samburu County. However, the total number of teachers had a positive and significant effect on ECDE enrolment in Samburu County (B=17.118, P=0.000). Based on the coefficient, the effect of total number of teachers on ECDE enrolment was higher after devolution. Before devolution, hiring an ECDE teacher would increase pupil enrollment by 3, after devolution, hiring an ECDE teacher would increase student enrolment by 17 pupils. The R square of 0.17 denoted that jointly, all the independent variables after devolution accounted for 17% of total changes in ECDE enrolment in Samburu County. This was higher compared to before devolution implying that the overall effect of the independent variables on ECDE enrolment was higher after devolution.

Table 4.21: Regression analysis after devolution

Variable	B	Std. Error	Beta	t	Sig.
(Constant)	28.958*	12.503		2.316	.022
Infrastructural Development	3.202	2.473	.096	1.295	.197
Number of Classrooms	4.386	4.026	.094	1.089	.278
School Feeding Program	2.892	10.402	.021	.278	.781
Total Number of Teachers	17.118*	4.305	.341	3.977	.000
R square	0.170				
Adj. R square	0.149				
F statistic	7.848				
Sig (F statistics)	0.000				

*1% Significance Level; **5% Significance Level

CHAPTER FIVE

DISCUSSIONS, CONCLUSION AND RECOMMENDATIONS

5.1. Introduction

This study sought to *"Assess the effect of devolution on enrolment to early childhood development and education (ECDE) in Samburu County"*. The variables considered in the study included community infrastructural development, school facilities, school feeding program and staffing/human resource. A summary of the study findings, conclusions and recommendations are outlined in this chapter while suggestions for further studies are included as a way of filling the existing gaps in this area of study.

Discussion of the Findings

5.2.1 Community Infrastructural Development

The first objective of the study was to establish the effect of community infrastructural development on enrolment to ECDE in the advent of devolution in Samburu County, Kenya. Descriptive findings indicated that majority of the respondents agreed that roads had been initiated in the region, there was water (boreholes) in the region around the center and there was mobile service network (Safaricom) in the region around the ECDE centers. According to the respondents some of the new infrastructural development that have been done in the surrounding area within the time period 2013-2019, included: classrooms, boreholes, dams, roads, health facilities, toilets, water tanks, kiosks, bridges, fences and markets.

The correlation results revealed a positive but insignificant association between community infrastructural development and ECDE enrolment. This can be attributed to the lack of direct link between infrastructure and enrolment, however the positive association indicated that infrastructure was complimentary to enrolment. Roads facilitated access to construct classrooms and kitchens that had a positive and significant relationship. Further, regressions findings indicated that infrastructural development had a positive but insignificant impact on ECDE enrolment in Samburu County before and after devolution.

The study findings contradict those of Brenneman and Kerf (2002), Figueroa, Lim and Lee (2016), Muendo (2016), and Murunga (2015) who established that infrastructural development is essential in enhancing pupils' enrolment to schools.

5.2.2 School Facilities

The second objective of the study was to determine the impact of county government investment on school facilities on enrolment to ECDE in Samburu County. Descriptive findings

indicated that prior to devolution; the average number of classrooms in each center was one. Currently, each center has an average of two classrooms. Majority of the respondents noted that classrooms were not adequate. Further, most of the respondents noted that there was kitchen in their center and there were toilets in the center for learners. However, majority of the respondents cited that there was no perimeter fence in their center.

The correlation results revealed a positive and significant association between number of classrooms, availability of kitchen, sanitary facility and ECDE enrolment. Further, the regression results indicated that school facilities (number of classrooms) had a positive and significant impact on ECDE enrolment in Samburu County. The impact of school facilities on ECDE enrolment increased after devolution.

The study findings were consistent with those of UNESCO (2008) that shown that availability of classrooms, teaching aids, and stationeries influence pupils' enrolment by encouraging them to report to school and stay in classes thereby increasing enrolment and retention rates. Similar findings were also recorded by Kaburu (2014).

5.2.3 School Feeding Program

The third objective of the study was to assess the influence of the introduction of school feeding program, by the County Government, on enrolment to Early Childhood Development and Education (ECDE) in Samburu County, Kenya. Descriptive results indicated that more centers now have feeding programs compared to the period before devolution. Majority of the respondents also noted that they get food rations every day and that the food rations were adequate.

The correlation results revealed a positive but insignificant association between feeding program, food rations and ECDE enrolment. Further, regression findings indicated that school feeding program had insignificant influence on ECDE enrolment in Samburu County before and after devolution.

The study findings are not in line with those of Shafii and Shafii (2001), and Akwach (2008) who established that school-feeding program enhanced children's enrolment and retention in schools. Mbugua (2013) also discovered that school feeding program might inspire parents to enroll children early and encourage regular attendance. There is need to further investigate why in the case of Samburu County School feeding programme has no impact on ECDE enrolment, yet this is an expectation.

5.2.4 Teaching Staff

The fourth objective of the study was to determine the effect of staffing/human resource by the County Government on enrolment to ECDE in Samburu County. Descriptive results indicated

that before devolution, majority of the centers had an average of one female teacher. However, most of the centers did not have male teachers. Results further indicate that currently, most of the centers have at least one female and male teacher. Most of the teachers are on permanent and pensionable basis. Majority of the respondents noted that teaching staff had received staff development training. Most of the teaching staff had also been trained on CBC.

The correlation results revealed a positive and significant association between number of teachers and ECDE enrolment. Further, regression results indicated that staffing (total number of teachers) positively and significantly affected ECDE enrolment in Samburu County before and after devolution. The regression results further show that before devolution, the total number of teachers had a positive and significant effect on ECDE enrolment in Samburu County (B=3.154, P=0.034). After devolution, all the independent variables except total number of teachers had an insignificant effect on ECDE enrolment in Samburu County. However, the total number of teachers had a positive and significant effect on ECDE enrolment in Samburu County (B=17.118, P=0.000). Based on the coefficient, the total number of teachers on ECDE enrolment was higher after devolution The impact of staffing on ECDE enrolment increased after devolution.

The study findings were consistent with the works by James (2015) who concluded that training adds methods of teaching and benefits employees and the organization or school. For better and high graduation rate, then training is necessary for pre-school teachers. Just like James, this study emphasizes the importance of training the teaching staff.

5.3 Limitations of the Study

Descriptive survey research design was adopted for this study which usually gives difficulty in control of events. To delimit this challenge, the researcher used a fairly large sample size of 30% in order to provide a better representation of facts.

Secondly, most parts of the county are remote and ECDE centers are sparsely distributed making it challenging to reach all the targeted areas. To delimit this challenge, the researcher collected data during favorable weather conditions.

The third limitation was the risk of getting bias responses from the respondents, by virtue of the leadership role of the investigator in the county or because of misunderstanding the questions. To delimit this challenge, the investigator worked with data collection team who assured the respondents of confidentiality and anonymization of respondents. Also, the data

collectors assured the respondents that the data collected will be utilized for research purposes only, therefore honest and truthful answers would guarantee balanced research output.

5.4 Conclusion.

Following the findings, the study concluded that the introduction of devolution had led to new infrastructural developments within Samburu County. These included: roads, boreholes, telecommunication network, health facilities among others. The implication is that new infrastructural developments are likely to enhance access/enrolment of more learners to ECDE centers.

The study also concluded that the county government investment on school facilities was effective in enhancing enrolment to ECDE, however, the impact is not yet significant. The implication is that investment on school facilities including classrooms, kitchen and sanitary facilities will boost access/enrolment to ECDE. There is need to further establish which initiatives can boost the impact of school facilities on ECDE enrollment.

Further, the study concluded that the introduction of devolution has resulted to increase in the number of feeding programs in the ECDE centers. The implication is that increase in feeding programs is likely to influence access/enrolment to ECDE centers with Samburu County.

Finally, the study concluded that the introduction of devolution has resulted to hiring of more permanent ECDE teachers within Samburu County. A positive and significant relationship was found between number of teachers and ECDE enrolment. The implication is that having more teachers would enhance access/ enrolment to ECDE.

5.5 Recommendations

Based on the study results, this research makes the following recommendations.

There is need for both national and county governments to invest more on infrastructural development within Samburu County. This means that there is need for more roads, boreholes, dams, health facilities among others.

The county government of Samburu should also invest on improvement of school facilities. Despite the fact that there has been increase in the number of classrooms during devolution compared to before; however, the number is still not adequate and the results show that the impact is not significant. The county government should therefore allocate more funds towards construction of more ECDE classrooms in different areas within the county and also establish qualitative factors that will ensure that the impact of this initiative has high impact.

The county government in collaboration with other stakeholders further needs to invest more on school feeding programs in order to achieve a hundred percent feeding program and also

ensure that there is a high impact in the community. This will not only ensure 100% enrolment to ECDE centers but also enhance quality of the ECDE education.

Finally, the study recommended that the county government should employ more teachers to ECDE centers. It should also ensure that all the teaching staff receive staff development training as well as CBC training. This will enhance delivery of quality education content to learners.

5.5 Suggestions for Further Studies

The scope of the research was the County of Samburu and focused on selected variables representing interventions as a result of devolution, these were community infrastructure, school facilities, school meals and staffing from the perceptions of teachers. Future studies could consider triangulation approach where the parents, children and the department in charge of ECDE can be engaged on the State of ECDE and the contribution by devolution. Further, there is need for similar research in other counties for the purpose of comparison.

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APPENDICES

Appendix I: Questionnaire

Instructions

Dear Respondent,

The purpose of this questionnaire is to find out the influence of devolution on ECDE access. The research topic for the study is "*Assessment of the Impact of the Devolved Governance Intervention on Early Childhood Development and Education in Samburu County.*" You are, therefore requested to fill in the following question with honest and truthful responses. Please do not write your name in this questionnaire. The data collected will only be used for research purposes and confidentiality will be highly guaranteed. Remember that your participation in this study is voluntary and you have the freedom to withdraw any time you deem fit to do so.

Thanks in advance for agreeing to participate in this study.

SECTION A: BACKGROUND INFORMATION

1. Your gender
   Male [ ]
   Female [ ]
2. What is your marital status?
   Married [ ]
   Single [ ]
   Widowed [ ]
   Divorced [ ]
3. Name of school……..
   Ward……
   Village……
4. Your teaching experience range (in years)- head teacher
   2000-2005 [ ]
   2006-2010 [ ]
   2011-2015 [ ]
   2016-2020 [ ]

5. When were you posted to your current ECDE Centre? Provide exact date ……
6. On which employment terms are you currently serving the center?

   Casual Basis [ ]

   Contractual Basis [ ]

   Permanent and Pensionable [ ]
7. Are you a trained teacher?

   Yes [ ]

   No [ ]

   If yes, what is your highest level of qualification?

   Certificate [ ]

   Diploma [ ]

   Degree [ ]
8. ECDE center enrolment

   Number of Girls *Before Devolution*……

   Number of Boys *Before Devolution*……

   Number of Girls *After Devolution* ……

   Number of Boys *After Devolution* ……
9. Distance from the nearest other ECDE Centre……. km.

SECTION B: ECDE SCHOOL ENROLMENT

1. **Enlist the enrolment figures appropriately in the table below: -**

Name of the ECDE Centre……. Village……Ward……..

YEAR	No. of Boys	No. of Girls	Total
2005			
2006			
2007			
2008			
2009			
2010			
2011			
2012			

Name of the ECDE Centre……. Village……Ward……..

YEAR	No. of Boys	No. of Girls	Total
2013			
2014			
2015			
2016			
2017			

2018			
2019			

SECTION C: IMPACT OF DEVOLUTION ON ECDE-

A. Community Infrastructural Development

1. List new infrastructural developments that have been put up/constructed/developed in the surrounding area within the time period 2013- 2019?

   ……
   ……
   ……
   ……
   ……

2. List (Through recall and reference available records) infrastructural developments that were put up/constructed/developed in the period surrounding area prior to devolution (2005-2012)?

   ……
   ……
   ……
   ……..

3. Have the following facilities been initiated in the region around the centre in the period 2013-2019?

b. Roads Yes [ ] No [ ]

c. Water (boreholes, dams) Yes [ ] No [ ]
   Please specify……

d. Mobile service network Yes [ ] No [ ]
   If Yes, which mobile service providers? .....

B. School Facilities

4. How many classrooms were there prior to devolution (2005-2012)? ……
5. How many classrooms do you have now in the center? ……

6. Which entity/entities funded the construction

a. County Government

b. Community

c. Development Partner

d. Others Specify?

7. How many Classrooms are available? Yes [ ] No [ ]

8. Do you have a kitchen in the center? Yes [ ] No [ ]

9. If yes, when was the kitchen constructed?.....

a. Have there been improvements made in the kitchen Yes [ ] No [ ]

b. If Yes, when were the improvement done (mm/yyyy)

c. State the actual improvements done

10. Does the Centre have toilets for learners? Yes [ ] No [ ]

11. If yes, when were the toilets constructed?.....

a. Have there been improvements made in the toilets? Yes [ ] No [ ]

b. If Yes, when were the improvement done (mm/yyyy)

c. State the actual improvements done

12. Is there center perimeter fence? Yes [ ] No [ ]

13. If yes, when was the perimeter fence constructed?.....

a. Have there been improvements made in the perimeter fence? Yes [ ] No [ ]

b. If Yes, when were the improvement done (mm/yyyy)

c. State the actual improvements done

C. School Feeding Program

14. Did the center have a feeding program prior to devolution (2005-2012)?

Yes [ ] No [ ]

Who provides the program during (2005-2012)? Please clarify when the programme started and what was provided in this program.

.....

.....

.....

What types of foodstuffs were provided under this feeding program? Please list them.....
.....

15. How often were the food rations provided?
    Once per week [ ]
    Twice per week [ ]
    Once per month [ ]
    Every day [ ]
16. Were the food rations adequate? Yes [ ] No [ ]

17. Does the center have feeding program during devolution (2013-2019)?
    Yes [ ] No [ ]
18. Who provides the program? Please clarify when the programme started and what is provided in this program.
    .....
    .....
    .....
19. What type of food stuffs are provided under this feeding program? Please list them.....
    .....
20. How often do you get food rations?
    Once per week [ ]
    Twice per week [ ]
    Once per month [ ]
    Every day [ ]
21. Are the food rations adequate? Yes [ ] No [ ]

D. Staffing /Human Resource

22. How many teachers were in the center prior to devolution (2005-2012)?
    Female ……....
    Male……

23. How many teachers are in the center during devolution (2013-2019)?

    Female ……...

    Male……

24. List the years when the teacher(s) present were employed in the center?.....

25. How many are trained teachers?

    Female……

    Male…….

26. How many are not trained?

    Female……

    Male……

27. How many are employed by the county government on permanent and pensionable basis?

    Female…….

    Male…….

28. How many are serving on contractual and casual basis?

    Female……..

    Male……....

29. Which organization is the employer of teachers in this center?

    National government [ ]

    County government [ ]

    NGOs [ ]

    Others. Please state.....

30. Have the teaching staff received staff development training?

    Yes [ ] No [ ]

31. Have any of the teaching staff been trained on Competency Based Curriculum (CBC)

    Yes [ ] How many? .....

    No [ ]

32. What support staff does the Centre have? Cooks Yes.., No… Guards Yes… No…. Other categories List and provide numbers

33. What do you think is the impact of staffing on ECDE enrolment in this center?

    ……

    ……

    ……..

34. Does training of ECDE teachers impact their delivery of the ECDE content?

    Yes [ ] No [ ]

Explain

……

……

……

35. Does teacher: pupil ratio affect the delivery of content and quality of education in this center? Please explain.

……

……

……

36. Does adequate staffing of the center influence the delivery of quality education in the region? Please briefly explain how?

……

……

……

……..

E. Others

37. How do you compare the following variables on their influence on ECDE Access / Enrolment, for the provided periods? *(Tick as appropriate)*

Variable	**2005-2012**			**2013-2019**		
Community Infrastructure,	1[ ]	2[ ]	3[ ]	1[ ]	2[ ]	3[ ]
School Facilities	1[ ]	2[ ]	3[ ]	1[ ]	2[ ]	3[ ]
School Meals	1[ ]	2[ ]	3[ ]	1[ ]	2[ ]	3[ ]
Staffing	1[ ]	2[ ]	3[ ]	1[ ]	2[ ]	3[ ]

,*Where:-*

1. Good
2. Average
3.Poor/Non-existent

Appendix II: Ethical Approval

Final Decision Certificate

This document certifies that the study:

"Assessment of the Effect of the Devolved Governance Intervention on Early Childhood Development and Education in Samburu County"

Principal Investigator: Mr. Lenolkulal, Moses Kasaine
Reference number: SU-IERC0698/20

Was reviewed and received the following status:
"approved"
Additional Comments: ----- Reviewer #1: 'Well done document' Reviewer #2: 'Kindly address the following: 1. Clarify the items in the budget as per the indications above. 2. Clarify the issue of compensation of participants as indicated above. 3. Provide a complete informed consent form and explain how it will be administered and consent obtained in practice. 4. Clarify the reference to village elders as respondents to Section C of the questionnaire.'

Appendix III: NACOSTI Permit

REPUBLIC OF KENYA

NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Ref No: 460993

Date of Issue: 01/April/2020

RESEARCH LICENSE

This is to Certify that Mr.. Moses Kasaine Lenolkulal of Strathmore University, has been licensed to conduct research in Samburu on the topic: ASSESSMENT OF THE EFFECT OF THE DEVOLVED GOVERNANCE INTERVENTION ON EARLY CHILDHOOD DEVELOPMENT AND EDUCATION IN SAMBURU COUNTY for the period ending: 01/April/2021.

License No: NACOSTI/P/20/4698

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NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY & INNOVATION

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