FISCAL DECENTRALIZATION IN KENYA – THE EFFECT OF CONSTITUENCY DEVELOPMENT FUND ON PRIMARY SCHOOL ENROLMENT IN KITUTU CHACHE CONSTITUENCY.

GILBERT ARIEMO

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DECLARATION

I, hereby declare that the research paper is my original work and that to the best of my knowledge it has never been presented for the award of any degree or diploma in any other University or institution.

GILBERT ARIEMO 08/11/2014

This research paper has been submitted for examination with my approval as the University Supervisor.

PROF DAMIANO M. KULUNDU..... 08/11/2014

DEDICATION

I dedicate this research project to my late grandmother Salome K.Ariemo and my mother Genvivah K. Nyanumba. They are the bedrocks of my life and have sacrificed immensely to making me who I am today.

APPRECIATION

First and foremost, I give gratitude to the almighty God for enabling me come this far. He has blessed me richly and lit my pathways in many ways than one.

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ABSTRACT

The paper provides empirical analysis of the impact of fiscal decentralization in Kenya through CDF on gross enrolment to standard one in primary schools in Kitutu Chache constituency. Data from 30 public primary schools sampled was taken for period between 1993-2013, representing period prior to and after introduction of CDF. Panel data was used in the analysis that estimated a random effects model. Key observable independent variables primarily the pupil-teacher ratio, class size, number of streams and FPE were controlled for. The results suggest that fiscal decentralization though CDF has no significant effect on standard one enrolment in Kitutu Chache constituency. A further estimation was done to see the effect of CDF on gross enrolment to the entire school and CDF was found to have a positive and significant impact, therefore colloborating the existing theoretical literature on the impact of fiscal decentralization on public goods provision.

KEY WORDS: Fiscal decentralization, CDF,Enrolment, Education, Kitutu Chache, Public goods.

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LIST OF ACRONYMS

UN –United Nations

FTI - Fast Track Initiative.

MDG – Millenium Development Goal

FPE – Free Primary Education.

CDF – Constituency Development Fund.

IEA – Institute of Economic Affairs.

NARC – Nationa Rainbow Coalition.

KCPE – Kenya Certificate of Primary Education.

KCSE – Kenya Certificate of Secondary Education.

P/T RATIO – Pupil: Teacher ratio.

NARC – National Rainbow Coalition.

OECD – Organization for Economic Co-operation and Development.

CHAPTER ONE

1.0 INTRODUCTION AND BACKGROUND

Equity in resource distribution is an issue which has dominated most developing countries' economic and political discussions over the years. Kenya is not an exception. Since independence in 1963, the Kenyan government has formulated an array of decentralization programs, among them the District Development Grant Program
(1966), the Special Rural Development Program (1969/1970), District Development Planning (1971), the District Focus for Rural Development (1983 -84) and the Rural Trade and Production Centre (1988-89). Though noble, these programs suffered challenges relating to strained funding and excessive bureaucratic culture by the central government (Ogutu, 1989; Khadiagala & Mitullah, 2004).

Africa has historically lagged behind her international neighbours in development. This is characterised by escalating poverty, unemployment and inequality within and across a majority of African states (Mbabazi 2005). The common explanation to this has been said to be the top-down approach to development that was adopted by most African leaders under the guise of national unity but in reality as a means of stifling "opposing views and opposition politics as power became concentrated in the hands of an increasingly detached elite organised into single party, military or civilian-military hierarchies of various kinds" (Olukoshi and Nyamnjo 2005). The disenchantment with this centralised approach, following its dismal contribution to development has since seen the call for decentralization strategy to address African development problems.

This call has further been justified by the success of decentralization strategies elsewhere in the world. For instance the Caribbean, East Asia and East European countries have embraced decentralization as an important component of the development agenda and have fared better than Africa (Burki Et Al 1991); (World Bank 2000). The explanation is that decentralization strengthens local governance, democratization and greater efficiency and equity in the use of public resources and service delivery for development (Ribot 2002).

Fiscal decentralization refers to the process of devolving fiscal responsibility to lower levels of government in accordance with the local needs and preferences. These responsibilities include raising revenue - in the form of central government transfers or local taxes for spending on public goods with benefits that are local in scope such as local roads, education, primary healthcare, and sanitation. Nationally beneficial public goods, such as national defence and major roads, should be provided by central governments. And while local governments are best suited to allocate certain public goods, most agree the central government should oversee redistribution efforts and macroeconomic stability programs (Tiebout, 1956; Oates, 1972; Smoke, 2001).It creates changes in control of financial resources from the central to local authorities.

Education is a vital component of the human development index and consequently, attainment of universal primary education has been classified as a millennium development goal, to be met by the year 2015. Few countries in Africa have been able to meet this goal. According to the UN 2013 fact sheets, enrolment in primary education in developing regions reached 90 per cent in 2010, up from 82 per cent in 1999. Even as countries with the toughest challenges have made large strides, progress on primary school enrolment has slowed. Between 2008 and 2011, the number of out-of-school children of primary age fell by only 3 million.

In 2002, the world community established the Fast Track Initiative (FTI) to help the poorest countries progress toward the education MDG through both financial and technical support. In 2003, the Netherlands, whose economy is 1/20 the size of the U.S. economy, took the lead among developed countries and contributed $220 million to an initial fund dedicated to the FTI. Norway, Italy, and Belgium have also contributed to the fund.

Today, the U.S. invests in its future by spending about $6,800 a year per primary school pupil on public education. In Iran the figure is $156 per student per year, in India $64, in Lagos $30, and in Rwanda $19.Kenya allocates a paltry $11.86 per pupil in the Free Primary Education (FPE) program. (Hart,D,2002).

Kenya has devoted a substantial amount of resources to the education sector since independence. Between 1991-2000, public expenditure on education accounted for 28.2% of total government

expenditure. This resources allocation have seen expansion in number of schools and better equipment, therefore widening access to education at all levels. Adult literacy rates have almost quadrupled, from 20% in 1963 to 76% in 1997, and now the average person in the working-age population (age 15–64) has about 6 years of formal education (Kimalu et al. 2001).

While the free primary education (FPE) program has increased access to primary education especially among poorer households, ancillary costs of primary education (such as school uniforms) continue to hinder the educational attainment of many children. In addition, the provision of quality education remains a challenge.

School fees had been a major barrier to education. In 2000, prior to FPE, the gross enrollment rate in primary school was 87%. However, the introduction of FPE led to a surge in enrollment, pushing the gross enrollment rate to just over 100% (World Bank, 2004). Yet despite the FPE related enrollment and access gains, other important barriers to access remain. In particular, while enrollment is now high on average, there are still groups among whom enrollment remains an issue. Additionally, irregular attendance amongst those who are enrolled is a major problem across the country.

In some areas, distance to the nearest school remains a problem. The problem is most acute in provinces such as North Eastern, which only had 250 public primary schools in 2007, compared to over 4000 public primary schools in Eastern province. While this reflects the low population density of North Eastern, the general shortage of schools probably contributes to the low enrolment rates in the region. In 2007, the gross enrolment rate in North Eastern province was approximately 35%, compared to about 125% in Eastern province (Ministry of Education, 2009). There is substantial evidence in the economics literature that distance is an important deterrent in the take up of services (e.g. Kremer et al 2010 for water services, Thornton 2009 for health services). Thus, reducing the distance to schools could help boost educational access for students.

The Constituency Development Fund (CDF) was established in Kenya through an Act of parliament in 2003 as one of the strategies to decentralize fiscal responsibilities from the centre to parliamentary jurisdictions so as to spur development at the constituencies. The essence of the CDF program was to iron out regional development imbalances brought about by patronage politics by providing funds to parliamentary jurisdictions (constituencies) to fight poverty. The program was designed to fight poverty through the implementation of development projects at the local level and particularly those that provide basic needs such as education, healthcare, water, agricultural services, security and electricity.

Each year, a substantial portion is allocated to the education sector from the annual CDF allocation to the constituencies. The funds go towards building new schools, new classrooms, equipping schools, etc. Consequently, physical facilities are significantly expanded and school enrolment boosted. The purpose of this paper is to trace any relationship between CDF budgetary allocation to education and primary school enrolment in Kitutu Chache constituency, Kisii county, Kenya.

1.1 Statement of the problem

Experience clearly indicates that many of the assumed benefits of decentralization policies do not materialize and in fact very few developing countries have achieved success in implementing decentralization programs.Doubts have specifically been cast as to whether CDF has met its stated objectives or not, thereby making this debate a research imperative (Bagaka,2008).

A study by the Institute of Economic Affairs (IEA) in 2006 in all Kenyan constituencies found that the sharing of the CDF allocations within the constituency is not always a smooth exercise.

Quite a substantial amount of finances out of the CDF allocations is devoted to educational concerns, with bursaries alone taking 10% of the total allocations as per the CDF Act. The rest of the funds go to expanding the school infrastructure as well as purchase of relevant school inputs. No research has previously been carried out to investigate the impact of these CDF expenditures in schools on the gross enrolment of pupils in standard one, a gap that will be filled by this study.

Empirical studies carried out on the impact of fiscal decentralization in developing countries have been skewed towards focus on health outcomes and there's scanty research on education, and especially impact on primary school enrolments. The research problem therefore is: ***Has fiscal decentralization in Kenya through CDF had any impact on primary school enrollment in Kitutu Chache constituency?***

1.2 Objectives of the study

The overall objective of the study was to determine the impact of fiscal decentralization in Kenya through CDF on primary school enrollment in Kitutu Chache constituency. The specific objectives of the study were:

- To determine the effects of CDF allocations on primary school enrollment in the constituency and establish which other variables affect school enrolment.
- To offer policy advise on the case for or against CDF as a strategy for resource decentralization.

1.3 Hypotheses

To address the above research question(s), this study will test the following null hypothesis:

H1a: Fiscal decentralization through CDF enhances primary school enrolment.

1.4 Significance of the study

While much of the literature on the topic of fiscal decentralization has focused on its role in the provision of public goods by devolved administrative units, no study has been done to assess the impact of this strategy on key development parameters such as access to primary education in Kenya.

In its poverty eradication and development plans, the Kenya government has identified the provision of universal primary education by 2015 and an increase in primary school enrolment between 1999-2005 as a key driver towards realization of this goal. While the school enrolment has admittedly gone up because of the free primary education (FPE) initiative by the NARC administration, enrolment has steadily declined due to strained school facilities, that is, classrooms. In this study, we hypothesized that enrolment is directly impacted by school facilities.

A substantial amount of CDF allocations to the constituencies is devoted to expansion of existing classrooms and building new schools. This study is significant in filling the gap that currently exists as to whether CDF has positively impacted primary school enrolment in Kitutu Chache

constituency. This then will form a basis for justification of more allocations to the education sector, or otherwise.

Importantly, the findings of the study will also inform policy advice to the local constituency CDF committee on the efficacy of CDF budgetary allocation to schools.
Previous empirical studies on this area report mixed results, contradictory and also convergence. In addition majority of the studies on the effects of fiscal decentralization are skewed towards impact on health outcomes and primarily employ time series and cross sectional data. This research study will make use of panel data and this too is a key contribution.

CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 Concept of Fiscal Decentralization

Decentralization encompasses a variety of concepts, the feasibility of which must be carefully analysed in any particular country before pursuing decentralization policies. Rondinelli and Nellis (1986) define decentralization from an administrative perspective as 'the transfer of responsibility for planning, management, and the raising and allocation of resources from the central government and its agencies to field units of government agencies, subordinate units or levels of government, semi-autonomous public authorities or corporations, area-wide, regional or functional authorities, or non-governmental private or voluntary organizations'.

Decentralization also can be defined as a situation in which public goods and services are provided primarily through the revealed preferences of individuals by market mechanisms. Public choice theorists contend that, under conditions of reasonably free choice, the provision of

some public goods is more economically efficient when a large number of local institutions are involved than when only the central government is the provider (Ostrom et al., 1961; Buchanan and Tullock, 1962). A large number of providers offer citizens more options and choices. These options can be packaged as different 'market baskets' of goods and services that meet the needs of different groups of users. In more advanced economies people can select among local areas providing different combinations of services and facilities by moving to communities with the combination they desire (Tiebout,1956)

According to Rondinelli and Nellis (1986), decentralization can take three forms: deconcentration, delegation, and devolution. Under deconcentration, the central government shifts some tasks to the local administrative units without allowing local discretion.
Under delegation, local jurisdictions have a certain degree of discretion in the provision of public services, but they still follow the central government's directions and requests. Under devolution, local jurisdictions are independent decision makers that respond to their residents' preferences and needs in the provision of public services (Kwon, 2003).

2.2 Theoritical Literature Review

This study will rely on the fiscal federalism and decentralization literature to understand how CDF equitably redistributes resources to all the constituencies in Kenya and the ultimate effect on the provision of public goods.The decentralization literature suggests that devolved spending powers encourage local people to fund projects that fit their tastes and preferences.

Fiscal decentralization refers to the process of transferring fiscal responsibility to lower levels of government in accordance with the local needs and preferences. These responsibilities include raising revenue - in the form of central government transfers or local taxes for spending on public goods with benefits that are local in scope such as local roads, schools, primary healthcare, and sanitation. Nationally beneficial public goods, such as national defence and major roads, should be provided by central governments.

Proponents of fiscal decentralization as a development strategy base their argument on two assumptions: (1) that due to informational advantage and proximity of the local governments to

the residents, decentralization will increase economic efficiency as the local governments are capable of providing better services aligned to tastes and preferences of the locals. The provision of local outputs that are differentiated according to local tastes and circumstances results in higher levels of social welfare than centrally determined and more uniform levels of output across all jurisdictions (Wallace Oates,1993). (2) that competition and population mobility across local governments for the delivery of public services will ensure the right matching of preferences between local communities and local governments (Tiebout, 1956).

Fiscal decentralization increases economic efficiency by promoting expenditure efficiency and relevance to projects that will yield the highest maximum social advantage to the local residents. As a result, the decentralization process ought to be managed and phased with appropriate institutional planning, legal and financial frameworks and to include a pro-poor budget framework in order to achieve its stated objectives (Hinsz et al, 2006)

Decentralization involves the establishment of an arena of decision making that lies outside the influence of the central government in which the central government delegates some of its power to local or regional administrators which carry out certain functions on their own (Kalaycioglu, 2000). Smith (1985) sees decentralization as the delegation of power to lower levels in a territorial hierarchy whether the hierarchy is one of governments within a state or offices within a large organization. Further, Smith notes that decentralization can occur in all geographical areas such as neighborhoods, field personnel in the area of central departments or within a large organization. From a fiscal perspective, decentralization refers to a set of policies designed to increase the revenues or fiscal autonomy of sub-national governments (Falleti, 2005).

Decentralization literature has not prescribed the appropriate level of government to provide the public goods and services. Most of the recent focus has been on the advantages of local provision. As Silverman (1990) argues, local governments are more responsive to their citizens than is the central government. The notion is that when government decisions are made at levels of government closer to the actual individuals receiving the government services, the decisions will better reflect the demands of those people. This is because a government closer to its citizens will have more accurate information about their tastes and preferences. By extension, but

perhaps not as obvious, local governments should be able to use that information to produce public goods more efficiently than the central government. Additional purported benefits of fiscal decentralization include less possibility of corruption,greater participation in local government, and more equal distribution of wealth.

By taking a government closer to the people, it's forced to be more responsive, accountable and competitive in meeting the citizens' demands and in utilizing the devolved funds (Schroeder and Wynne, 1993, Smoke 2001,Oates 1972).

Central governments are also said to be less informed (or concerned) about local needs and special circumstances. As a result local provision will be more efficient. Such reasoning helps to explain the large number of countries which have devolved budget decisions to local governments in recent years. A recent survey of developing and transitional nations indicates that out of the 75 such economies with populations greater than five million, all but 12 claim to have embarked on some type of transfer of power to local governments (Dillinger, 1994).Decentralization is geared to making governments perform better especially at local levels. This happens through creating governments that are more honest, efficient and responsive at providing basic public services to its citizens (Oates 1972)

During the 1990s, fiscal decentralization and local government reforms became among the most widespread trends in development. Many of these wide-ranging and costly efforts, however, have made only modest progress toward meeting their stated goals. Given this uneven performance, there has been extensive debate about the desirability of fiscal decentralization and how to approach it

The importance of decentralization as a policy reform theme in countries around the world cannot be easily overstated. Some 95 percent of democracies now have elected subnational governments, and countries everywhere—large and small, rich and poor are devolving political, fiscal, and administrative powers to subnational tiers of government (World Bank, 2000). In fact, the past decade has seen a number of countries engage in high-profile reforms of their intergovernmental fiscal relations in order to accommodate new political and economic realities.These include Indonesia, the Russian Federation, South Africa, and Uganda.

Developing countries have generally regarded unified, centralized,and regulatory government as highly desirable.

Centralization has tended to be both the norm and the ideal that pervades concepts of political, economic, and administrative organization in the Third World. It is not difficult to understand why this is the case. In most countries that were formerly colonies, centralized political and administrative institutions were a direct legacy of the colonial rulers, and until recently these systems were largely left untouched, or were further centralized.Centralized economic planning, intervention, and control have been viewed by national government authorities as the correct path to follow,despite frequent and increasingly detailed accounts of their negative effects.

A widely held suspicion in the Third World is that the principal mechanism of economic decentralization,the market,is immoral and anarchic,and that its impersonal operation rewards the few at the expense of the many. The proponents of centralized development strategies have also argued that fiscal decentralization could also bring cordination,disintegration and equity failures and problems.Even lead to more corruption as more rules and bureaucracy increases the cost of doing business and also the elusiveness among different levels of government can reduce accountability (Hinsz et al, 2006).Many neoclassical economists would agree that markets in developing countries work imperfectly. But most would conclude that the proper solution to this problem is to find ways of removing obstacles in order to allow the market to operate more freely (Rondinelli & Cheema,1983).

In many industrialized and developing countries, major programs have been introduced to shift decision-making from the center to provincial and local governments. In the developing nations, such restructuring has been, in part, a response to the failure of centralized planning to bring the sustained growth that was one of its major objectives (Oates,2005).

The reform of economic systems in developing countries during the 1980s focused largely on increasing the role of the market and improving the environment in which it operates. For some years, there was a preoccupation with the private sector, such that reformers almost seemed to forget the potential role of the public sector in promoting development.

In recent years, there have been widespread attempts both to redefine the role of the public sector in developing countries and to improve its performance. An increasingly important component of these reforms is the introduction of policies to decentralize the functions of government.

Fiscal decentralization exists when sub-national governments have powers given to them by the constitution or by legislative laws, to raise some taxes and/or carry out spending activities within clearly established legal criteria Tanzi (2000).

The theory of fiscal federalism conceives the organization of the public sector in a more or less federal way so that different levels of government provide public services and have some scope for de facto decision-making authority irrespective of the formal constitution within a nation state (Oates 1972). From a normative perspective, fiscal federalism identifies three roles for the public sector: macroeconomic stabilization, income redistribution and resource allocation in the presence of market failure (Burkhead and Miner 1971). The macroeconomic stabilization and income redistribution functions are assigned to the central government while resource allocation function is assigned to sub-national governments (WorldBank 2000).

The economic efficiency as a main benefit of fiscal federalism is based on two assumptions. First, it assumes that there exists homogenous tastes and preferences for all individuals who reside in a community or and that these tastes and preferences differ from those of individuals who live in other communities or regions. And second, it assumes existence of perfect knowledge among the residents of a region, as regards the costs and benefits of public services of their region (Burkhead and Miner 1971). Thus, resources devoted for public purposes should be left to the local people to enhance their preferences for public expenditure that optimizes costs (Boadway and Wildasin, 1984).

In a multi-level government setting, each level of government would seek to maximize the social welfare of its respective constituency. Thus, a local government, for example, would be expected to promote the interests of those within its limited jurisdiction.

In a setting with public goods whose pattern of consumption is less than national in scope, decentralized finance offers some potentially important opportunities for gains in social welfare (Oates,1972). But since there are a number of “local public goods” with varying geographical patterns of consumption, it was recognized that there could hardly exist a level of government whose jurisdiction coincided perfectly with the pattern of geographical benefits for every local public good.

In particular, outputs of some local public goods such as schools, roads, etc can produce inter-jurisdictional spillover benefits: they provide benefits for residents of other jurisdictions, Nonetheless, there might still be welfare gains from allowing decentralized provision relative to a uniform, centrally determined level of public outputs. Local governments, in the pursuit of local welfare maximization, would extend the outputs of such local public goods to the point where marginal social benefits for society as a whole equal marginal social cost (Oates, 1972).

Wallace Oates developed the seminal work on fiscal decentralization in 1972. The major assumption underlying his theory is that a central government, due to imperfect information, will produce a uniform level of public goods across jurisdictions. While uniform provision is appropriate for goods with national benefits, such as national defence, it may be inappropriate for goods that are local in scope, such as schools and health clinics. Uniform funding for health clinics, for example, may be inefficient because it ignores heterogeneous tastes and preferences across jurisdictions. Perhaps one community wants more funding for health related activities, while another prefers the money spent on local schools. Local governments can obtain better information about preferences, costs, and other idiosyncrasies unique to their constituency, at a lower cost (Oates, 1972).

Since local regions within a jurisdiction may not be equally endowed with resources, Intergovernmental grants and transfers are important instruments for allocating resources within a federal structure (Gramlich, 1988).

For economic efficiency, fiscal federalism literature suggests that local jurisdictions use transfers that communicate to its households the cost of consuming different levels of public goods (Oates, 1999). It follows that allocative efficiency is attained by providing the mix of output that

best reflects the preferences of the individuals who make up society. (Oates, 1972). Further, by allowing many different local governments to provide certain public goods, more creative methods of provision at lower costs arise (Oates, 1972). Many local governments will find a way to best produce public goods for their respective constituents.

These different methods of production will be observed by neighbouring districts, inducing competition to find the best technology with which to produce the good. This in turn lowers the costs of production.

Musgrave and Musgrave (1984) assert that public goods should be produced by the level of government whose constituents benefit from that provision. If the benefit is felt nationally, the public good should be produced by the central government. If the benefit accrues at the local level, local governments should provide the good. This is due not only to the informational advantage, but also because local governments are closer to real resource costs. In the event of a positive spill over; a situation in which one district benefits from the public goods provision of another district at no cost, the central government is able to internalize that spill over with the least amount of transaction costs
(Smoke, 2001).

In most developing countries, fiscal decentralization is promoted as a panacea for the ills of centralized structures. For one, fiscal decentralization is associated with improvement in performance of the public sector through allocative efficiency (Oates, 1972; Ebel and Yilmaz, 2002). Second, decentralization is associated with improved performance on measures of basic needs such as health and education in developing countries (Lindaman and Thurmaier, 2002). Third, fiscal decentralization is associated with equity.
When resources are allocated based on an agreed upon formula, all local jurisdictions are guaranteed a minimum level of per capita expenditures for essential services (World Bank 2000).

Lastly, Turner and Hume (1997) assert that decentralization brings public services closer to the people unlike centrally planned services located in capital cities. Close proximity, it is argued, enhances accountability and autonomy.

Fiscal decentralization as a strategy for resource distribution provides greater decision making power to local governments. This enables local jurisdictions set in pace effective poverty alleviation initiatives in developing countries. Its impact on public goods provision should therefore depend on the quality and nature of local institutions.

Many alleged benefits of decentralization have been claimed in the literature, most of which relate to improvements in the level and quality of local services and revenue sources, better matching of local services to the preferences of local constituencies, and greater accountability. Given that claims of service improvements are so central to the arguments of decentralization advocates, it is somewhat surprising that so little research has been conducted to see if decentralization indeed increases the level of services and uptake of key public goods delivered and their quality. A fairly recent study of 10 developing countries found that decentralization does increase total and subnational expenditures on public infrastructure (Estache and Sinha, 1995).

Other anecdotal evidence suggests that particularly in countries where few services were being provided at the local level,decentralization seems to lead to a genuine addition to the types and levels of services being provided to local government constituents.The major constraint on further expansion of local services under decentralization appears to be a lack of balance between the revenue sources (including transfers) allowed to local governments and the increases in service functions assigned to them.

A recent study of water services provision Kenya found that public water infrastructure services provided by local authorities are more accessible and reliable than those provided by the centre (B.D. Lewis, 1998).

2.3 Empirical Literature

Various studies on the impact of decentralization on public goods provision have provided evidence of heterogeneity in access to public goods, as well as heterogeneity in investment in public goods across communities in the period prior to decentralization.
Research shows that fiscal decentralization comes with relatively high spending in schools and health centres and lower resources devoted to roads, public transport and other infrastructure

Obuya Bagaka (2008) analyzed the impact of the CDF in Kenya on the growth of national government budget between 2004 to 2008. In his study, he analyzed how local CDF expenditures on capital projects such as health centres and schools exported the tax burden of maintaining these facilities to the national government. He employed a Nested Analysis Approach (NAA) which combines a statistical analysis of large samples but with an indepth focus on one or more samples contained in the large samples. He used 210 Kenyan constituencies categorised into 68 districts. The study concluded that fiscal decentralization through CDF leads to equity and allocative efficiency. Further,the capital expenditures on healthcare at the local level contributed to growth of the national government budget.

Zhang and Zou (1998) undertook a case study of the effect of decentralization in China between 1970s through 1990s. They found out that the degree of decentralization differed across the various provinces and that in overall, decentralization slowed down economic growth at the provinces.

Kneller et.al (1999) studying decentralization and economic growth in OECD, applied pooled-mean group techniques to a panel data set of 23 OECD countries covering 1972-2005. The findings were that decentralization based on expenditure leads to a decline of economic growth while revenue based decentralization has been associated with higher growth. This is consistent with Oates (1972) hypothesis which calls for close matching between revenue and spending decentralization in order to achieve maximum efficiency gains.

Faguet (2004) in a study in Bolivia sought to examine whether fiscal decentralization leads to a more preferential treatment of local needs, specifically education and healthcare. This study was conducted in the context of spending and local goods provision. He used two specification models. The first one employed fixed effects ordinary least squares to test whether local conditions such as primary education enrolment and child vaccination had an effect on future

expenditure patterns of local governments. The second specification examines whether or not spending and household characteristics have any effect on future local outcomes. The study concludes that certain public goods such as education, water and sanitation, urban development, and water management, exhibit different investment patterns after decentralization. Local government expenditure in education rose by over 25% after decentralization while in health, expenditure decreased slightly. Using the change in investment patterns resulting from fiscal decentralization at both the national and local levels, decentralization therefore leads to more sensitive treatment of local needs in the aforementioned sectors. Further evidence from the study showed the poorest districts allocating large percentages of spending toward their highest priority projects.

Lev Freinkman and Alexander Plekhanov (2009) in a study to analyze the relationship between fiscal decentralization and the quality of public services in Russian regions concluded that fiscal decentralization doesnt significantly affect key secondary school inputs such as computers, textbooks, availability of schools or pre-schools. Key observable inputs were controlled for. The study found a direct relationship between quality of municipal utilities provision as well as on average examination results. Standardised examination results in Mathematics and languages were used as performance indicator in education. The study distinguishes between municipal expenditure shares and municipal revenues as measures of decentralization.

Barankay and lockwood (2007) studying the relationship between decentralization and school completion rates, found a positive relationship in Swiss cantons.

John Akin, et al (2011) in a study on the impact of decentralization and public goods provision in Uganda modelled local government budgeting decisions under decentralization, to assess allocative efficiency in the health sector. The empirical results provided evidence that district planners under decentralization allocated declining portions of their budgets to public goods activities. The budgets are split into specific types of activities based on the subjective characterization of their ‘’publicness’’. The study therefore concludes that decentralization has a negative impact on public goods provision.

Lars et. al (2013) studied fiscal federalism and public sector heterogeneity in Norway by using a simple model of partial fiscal decentralization, where earmarking central government's transfers on specific projects is ignored, letting the funds to be spent as per the local needs and preferences. The finding was that decentralization leads to dispersion in the levels of public services as spending adjusts to local needs. These results are empirically confirmed by the results of the 1986 Norwegian reform. Further,the study holds that local jurisdiction characteristics play a bigger role in determining the levels of public goods after decentralization reform than before. This finding is consistent with Jutting et al (2005) empirical study to examine the effects of fiscal decentralization on health outcomes in China. The study supports the gains of fiscal decentralization in terms of improved health outcomes. However the study only considered infant mortality as the main measure of health outcome and therefore there's need to examine other health outcomes avaliable in order to come up with a comprehensive effect of fiscal decentralization on health.

Sarmistha et al (2012) in a study to assess the impact of fiscal decentralization on local public spending in Indonesia, used data from Indonesia family life surveys and found that there was greater homogeneity in spending on social infrastructure (Schools and health centres) as well as physical infrastructure in the period after decentralization.
The study however fails to establish on whether there's any allocative efficiency associated with decentralization.

In another study to assess the effects of decentralization on education in East Asia and pacific Islands, 0% of the respondents held that quality had improved as a result of decentralization, with 31% observing that quality had actually deteriorated due to decentralization (Hinsz et al,2006)

Bird, Ebel, and Wallich (1995) examined decentralization in Eastern and Central Europe and found that provision of public goods such as schools can suffer in the short run as a result of decentralization. By contrast, Matheson and Azfar (1999) explored the impact of decentralization on health and education outcomes in the Philippines and found that decentralization improved

health outcomes in Filipino provinces where national minorities formed local majorities after decentralization.

Some studies further indicate that decentralization may widen regional disparities in social spending if local governments are made responsible for their funding and delivery. For example, West and Wong (1995) show that in China decentralization increased regional disparities in the provision of health and education services.

Similarly, Winkler and Rounds (1996) demonstrate that decentralization created inequities in school expenditures in Chile. However undesirable, inequity appears difficult to avoid in genuine decentralization reforms; the important issue is whether over time local initiative and equalization transfers improve welfare compared to the *status quo ante*.

There exists empirical evidence of governance improvements arising from local efforts in decentralized systems. Litvack et al. (1998), Klitgaard (1988) discuss factors that are likely to influence the performance of decentralized service delivery in terms of allocative efficiency, accountability, and cost recovery.

Isham and Kähkönen (1999), in a study to analyze the performance of community based water services in Central Java found that only if users themselves were directly involved in service design and selection, were services likely to match users' preferences. Their results indicate that informed user participation in service design and decision making led to different water technology choices: households expressed a willingness to pay for more expensive technologies than village leaders and government officials would have chosen. The study also shows that water services that matched user preferences were likely to perform better.

Overall, these studies, as well as other anecdotal evidence and theoretical work, suggest that the performance of decentralized service delivery depends on the design of decentralization and institutional arrangements that govern its implementation.

Thus research and practice both suggest the importance of understanding under which sets of arrangements decentralization works and under which it does not.

2.4 Critical Review of the Literature

Despite the vast empirical studies on fiscal decentralization, analysis of developed economies dominate the studies with scanty research on developing countries. The literature review in the preceding section reports mixed results, contradictory and also convergence in some studies. In addition majority of the studies on the effects of fiscal decentralization in the provision of social services seem to be biased on the health sector with minimal research work directed towards impact of fiscal decentralization on primary education uptake.

For instance, In the reviewed empirical literature, Barankay and lockwood (2007) posit a posititive relationship between fiscal decentralization and school completion rate a finding that contrandicts John Akin,et al (2011). On effects of fiscal decentralization on provision of social services, West and Wong (1995) and Winkler and Rounds (1996) are in agreement that fiscal decentralization leads to regional disparities in the provision of health and education services hence inefficiencies. Suzanne Hinsz et al (2006) found that decentralization leads to a decline in quality of education in East Asia and pacific.

Lev Freinkman and Alexander Plekhanov (2009) finds no significant relationship between fiscal decentralization and provision of social services mainly secondary school education in Russia. However, Matheson and Azfar (1999) conclude that fiscal decentralization improved health outcomes in Filipino provinces where national minorities formed local majorities after decentralization a contrast of the findings by Bird, Ebel, and Wallich (1995) in their analysis of Eastern and Central Europe.

These strands in empirical literature make it difficult to generalize effects of fiscal decentralization either across different regions and time periods. There is therefore the need to study the specific case of our interest and where possible use a combination of econometric techniques for comparison purposes if we are to have clear insight on effects of fiscal decentralization on primary school enrolment in Kenya specificallythe case of Kitutu Chache constituency.

CHAPTER THREE

3.0 METHODOLOGY

3.1 Introduction

This chapter discusses the research methodology that was used in the study. It encompasses theoretical framework, empirical model, definition and measurement of variables, sources of data and the econometric approach adopted by the study.

3.2 Theoretical framework

Following Gertler and Van Der Gaag (1988) and Gertler and Glewwe (1990),this study assumed that parents do a cost benefit analysis when deciding whether or not to enroll their children in school. Direct and opportunity costs of taking children to school eats into domestic resources meant for household consumption. On the other hand, attending school yields benefits.

This household choice may be cast in terms of utility functions derived from education. Since

we were concerned with the onset of CDF, which is aimed at providing social goods and services; primary education being one of them, we defined the utility function of the household from consuming public good (education) and private good.

Assuming X denotes primary education (public good) and Y a private good and further assuming two households A and B. Their respective utility functions can be given by:

$U_A = U_A(X_A, Y_A)$ For A and $U_B = U_B(X_B, Y_B)$ for B

Where:

$X_A + X_B = \overline{X}$ and

$Y_A + Y_B = \overline{Y}$

From the production side of goods and services, we introduced our production possibility function (PPF) as:

$F(X, Y) = 0$

Further we formed our Lagrangian function as:

$$L = U_A(X_A, Y_A) - a_1\left[\overline{U}_B - U_B(X_B, Y_B)\right] - a_2\left[F(X_A, X_B), Y\right]$$

Solving for a_1 and a_2 we get:

$$a_1 = \frac{\partial U_A}{\partial X_A} \Big/ \frac{\partial U_B}{\partial X_B} \quad \text{and} \quad a_2 = \frac{\partial U_A}{\partial X_A} \Big/ \frac{\partial F}{\partial X_A}$$

Substituting a_1 and a_2 back to normal equations and solving we get:

$$\frac{\partial U_A}{\partial Y} \Big/ \frac{\partial U_A}{\partial X_A} + \frac{\partial U_B}{\partial X_Y} \Big/ \frac{\partial U_B}{\partial X_B} = \frac{\partial F}{\partial Y} \Big/ \frac{\partial F}{\partial X_A}$$ ..... the slope of the PPF

Therefore, from the public economics analysis we get:

$MRS_{YX}^{A} + MRS_{YX}^{B} = MRT_{YX}$ .....Efficient condition for supply of public good.

This implies that:

$\sum MRS_{YX} = MRT_{YX} \Rightarrow MRS_{YX} =$ Marginal benefits from Y in terms of X.

We therefore based our study on the above theoretical model by Samuelson and assumed that the housedhold derives utility from consuming education and other private goods. From this model we derived our emprical model. In our case, we maximized consumption of education subject to CDF allocation constraints, class size, pupil – teachers ratio and the number of streams. However, to avoid difficulties and complications in expressing the constraints in a utility function, we adopted the OLS approach and estimated the linear relationship in log function to determine the elastisity of consumption of primary education (Gross enrolment) to the highlighted contraints.

3.3 Empirical Models specification

The study used panel data collected from 30 primary schools in Kitutu Chache constituency of Kisii County for 21 years covering 1993-2013. The choice of the use of panel data in our study was informed by a number of advantages of panel data over both cross-sectional and time series data, more importantly the ability to control for individual heterogeneity among the variables.

We defined our empirical model as a simple econometric model given as:

$y_{it} = \sim + \quad x_{it} + u_{it}$.....1

Where *i* denote the individual school and *t* denotes time aspect. y_{it} is the dependent variable, x_{it} is the set of explanatory variables, u_{it} is the error term, ~ and are the model parameters to be estimated.

Under the one – way error component regression model we assume that the error term can be decomposed into two components such that:

$$u_{it} = «_{it} + v_{it} \quad \text{.....2}$$

Where: $«_{it}$ is the unobserved individual school's – specific effects which are not included in the model v_{it} is the remainder disturbances.

On the other hand, under the two – way error component regression model we assume that the error term can be decomposed into three components such that:

$$u_{it} = «_{it} + ª_{t} + v_{it} \quad \text{.....3}$$

Where; $«_{it}$ is the unobserved individual school's– specific effects which are not included in the model.

$ª_{t}$ is the time – specific or the individual – invariant effect which are not included in the model.

v_{it} is the remainder disturbances. In addition to running the one – way and the two – way error component regression models, we will run the fixed effects or the random effects model.

The study was to apply the Hausman test in choosing on whether to run the fixed effects or the random effects model. However, since sampling technique of data collection was used, the random effects model sufficed over the fixed effects model. We subjected the random effects model to test against the pooled OLS model of panel data using the Wald test. From the results of the test, we proceeded to estimate the random effects model.

From equation 1 we defined our research models as:

$$E_{it} = \sim + \ _1FD_{it} + \ _2CL_{it} + \ _3PT_{it} + \ _4DFPE_{it} + \ _5STREAMS_{it} + £_{it} \text{.....4}$$

Where:

E - is gross enrolment in standard one,

FD - is the degree of fiscal decentralization, measured as CDF allocation to schools.

CL - is the Class size measured as the average class size, by dividing the total number of pupils in a school by the total number of classes.

PT - is the pupil – teacher ratio for the school. Obtained by dividing the total number of pupils in the schools by the total number of teachers.

$DFPE$ - is the dummy for free primary education

B0, β1, β2, β3, β4 and β5 are the parameters to be estimated. Theoretically, all the parameters were expected to be positive. We were particularly be interested in the sign and statistical significance of *β1* in the regression.

We note that i = 1, 2, 3……30 since we are analysing 30 public primary schools while

t = 1, 2, …, 21 since our analysis captures 21 years. Therefore in our total observations NT = 630.

3.4 Definitions and Measurement of Variables

Gross Enrolment

This is the total number of pupils enrolling in standard one in a particular school as at the beginning of the years under study.

Degree of Fiscal Decentralization

This the devolved funds by the central government to the grassroots levels intended to bring services closer to the people by providing essential services to the locals based on their order of preferences. The underlying assumption is that projects funded by such funds are people generated and that they are in tandem with their hierarchy of their preferences. In our study it will be measured by the constituency development funds allocated to each primary school over the years covered by the study. This variable was assumed to be zero during the years before CDF (2003).

Class Size

This measures the average size of the class. It is obtained by taking the total number of pupils in a particular school divided by the total number of physical class rooms in that school as at a particular year.

Pupil – Teacher ratio

This ratio was measured by the total population of pupils in a particular primary school, divided by the total number of teachers in that school as a particular year under study.

Free Primary Education

This is the era during which primary education was declared free by the government. Basically it's the era when the government ruled out fees payment at primary school level. Specifically, free primary education came into existence in 2003. In our study, this was a dummy variable which assumed the value of 0 for the period before 2003, and 1 for years after 2003.Thus 1 represents presence of free primary education while 0 represents absence of free primary education.

Number of streams

This is the actual number of physical class rooms for each level of study.

3.5 population

To ensure objectivity we collected data from 30 public primary schools in Kitutu Chache Constituency.

3.6 Sources of Data.

The study used data on annual gross enrolments to standard one from 30 public primary schools, CDF allocations to the public primary schools in Kitutu Chache constituency during the years under study (1993-2013), Teacher –pupil ratio and the number of streams. Data on school enrollment, teacher-pupil ratio, class size, and number of streams was obtained directly from the schools, Data on CDF allocations to the primary schools during the years under study was obtained from the schools as well, and validated by records from the constituency CDF office.

3.7 Kitutu Chache constituency – History and demographics:

Kitutu Chache is an electoral constituency in Kenya. It is one of the 7 constituencies in Kisii County. The others are Bonchari, Nyaribari Masaba, Nyaribari Chache,Bomachoge, South Mugirango, Bobasi and Kitutu Chache North. It was established as an electoral constituency in 1988. The constituency has a total population of 132,131 people (National census, 2009) and covers a total area of 104.40 Sq. Km.

Generally, the constituency enjoys high and reliable rainfall throughout the year. This, coupled by the moderate temperatures and red soils makes the area fertile for crop farming. The major preoccupation of the residents is small scale farming in food crops, cash crops such as coffee and tea, as well as animal rearing.

51% of the people in this constituency live below poverty line. The constituency has a total of 51 public primary schools, 19 secondary schools and 4 youth polytechnics. Schools in the area have very little infrastructure for learning. This is depicted by limited access to facilities such as libraries and well equipped laboratories at both primary and secondary school levels. These, coupled with overcrowded classrooms have jointly denied many pupils access to primary school education.

Kitutu Chache constituency was selected because the researcher has vast knowledge of the area and therefore will be easy to collect the data as well as understand the unique constituency and individual school characteristics such as culture and language. Moreover, significant amount of resources have been dedicated to implementing educational projects out of the CDF kitty in the area. Since the study aims at establishing a relationship between CDF allocations to schools and primary school enrolment, Kitutu Chache constituency therefore provides a good base for the study.

CHAPTER FOUR

4.0 DATA ANALYSIS, RESULTS AND INTERPRETATION

4.1 Introduction

This chapter deals with the analysis of the data, results of the estimated model as well as the interpretation of the results. In details the chapter covers the tests for the appropriate model for estimation, descriptive statistics of the variables and the results of the random effects model.

Table 4.1: Descriptive Statistics

	STD ENROLMENT	CLASS SIZE	PUPIL:TEACHER RATIO	NUMBER OF STREAMS
Mean	53.44333	39.93000	43.76667	1.023333
Median	51.00000	39.00000	43.50000	1.000000
Maximum	100.0000	67.00000	60.00000	2.000000
Minimum	26.00000	19.00000	32.00000	1.000000
Std. Dev.	13.37597	8.976657	5.579366	0.151212
Skewness	0.707363	0.548423	0.452378	6.315143
Kurtosis	3.289853	2.930613	3.056091	40.88103
Jarque-Bera	26.06829	15.09858	10.27160	19931.21
Probability	0.000002	0.000526	0.005882	0.000000
Sum	16033.00	11979.00	13130.00	307.0000
Sum Sq. Dev.	53496.04	24093.53	9307.667	6.836667

Observations	300	300	300	300

Table 4.1 reports on the descriptive statistics of our model variables. From the results the average pupils enrolment for all the sampled schools for the period 1993 – 2013 is 53 pupils with the mean for class size, pupil – teacher ratio and number of streams being 39, 43 and 1 respectively.

In terms of volatility measured by the deviation of observations from the mean; standard deviation, pupils' enrolment appear to be the most volatile with number of streams posting the least standard deviation. In addition, all of the variables are skewed to the right as evidenced by the positive skewness. In terms of distribution all the variables appear to be normally distributed as shown by the kurtosis values near to 3.0. For the errorterm, it is non – normally distributed as shown by the probability of the Jarque – Bera statistics of less than 5 percent significance level.

The maximum enrolment at any given school at any given year is 100 whereas the minimum is 26.

4.2 Diagnostic test for model choice

In order to determine the appropriate estimation model to be run, the study would apply the Hausman test to choose between the fixed effects and the random effects model, but being that sampling was used to pick the variables, the fixed effects model was automatically precluded, and hence we did not run the Hausman test. Instead we ran the wald test to choose between the random effects model and the pooled regression.The results are as per table 4.2 below.

Table 4.2 Wald test for choice of model:

TEST STATISTIC	VALUE	DEGREES OF FREEDOM	PROBABILITY
F-statistic	200327.7	(4, 625)	0.000
Chi-square	801310.9	4	0.000

The results for the Wald test presented in table 4.2 show that random effects model is more appropriate compared to the pooled regression model since the probability of the F – statistic is less that 5 percent significance level as evidenced by the P - value (F- statistics) =0.0000.

Having settled on the random effects regression model,we proceeded to estimate our model as follows:

4.3 Random effects regression for standard one enrolment

The random effects regression model for the impact of CDF on standard one enrolment in the 30 primary schools sampled in Kitutu Chache constituency for the period 1993-2013 is reported below:

Table 4.3 – Random effects table for std one enrolment.

	COEFFICIENT	STD ERROR	t-STATISTIC	PROBABILITY
CLASS SIZE	0.004334	0.011633	0.372576	0.7096
NO. OF STREAMS	54.87739	0.313422	175.0913	0
PUPIL:TEACHER RATIO	-0.010094	0.010011	-1.008309	0.3137
CDF	2.370707	5.294607	0.447701	0.6545
CONSTANT	-0.577408	0.421597	-1.369572	0.1713

	EFFECTS SPECIFICATION	
	t-STATICTIC	PROBABILITY
Cross-section random	.0000	0.000
Period random	0.104891	0.0084

WEIGHTED STATISTICS	
No. of observations	300
R-squared	0.997188
F-statistic	55414.23
Prob(F-statistic)	0
Durbin-Watson stat	2.093082

UNWEIGHTED STATISTICS	
R-squared	0.997542

Durbin-Watson stat	2.094742

In the randoms effect model we allow the school's unique characteristics to vary with time. From the results we find that only the number of streams significantly influences the total enrolment for the standard one in the Kitutu Chache constituency. From the results, a one unit increase in the number of streams increases standard one enrolment by approximately 55 pupils in Kitutu Chache constituency.

For the joint test we find that all the independent variables are significant in explaining enrolment as evidenced by the probability of the F- statistics of 0.00000.

Looking at both the weighted and the unweighted statistics we find the Durbin Watson statistics equals 2.09 which is very close to 2.0 implying absence of the autocorrelation.

Our R-squared is 0.997, implying that 99.7% of variations in standard one enrolment for the sampled primary schools in Kitutu Chache constituency can be attributed to changes in our explainatory variables. Both the cross sectional and period changes significantly influence the enrolment as indicate by their respective probabilities of 0.0000 and 0.0084 respectively implying that differences among schools and changes between years significantly impact standard one enrolment in Kitutu Chache constituency.

The class size, and the CDF allocation all positively impact on the standard one enrolment in Kitutu Chache constituency though insignificantly. The teacher – pupils' ratio negatively but insignificantly impact on primary school enrolment in the sampled schools in the constituency.

From the results, we conclude that fiscal decentralization in Kenya through CDF has had an insignificant contribution towards standard one enrolment in the sampled primary schools' in Kitutu Chache constituency

The aforementioned results are contrary to the popular expectation in theory of the effect of fiscal decentralization strategies on a parameter such as primary school enrolment.We hypothesized at the beginning of the study that CDF allocations to schools ought to boost uptake of primary education opportunities in those schools by way of expanding the class rooms,purchasing of learning materials such as books and equiping science

laboratories,introducing and sustaining school feeding programmes and employment of more teachers to ease on the shortage.These still remain valid arguments.

We therefore sought to colloborate these results by running a random effects regression on the effect of the CDF allocation to those same schools in Kitutu Chache constituency on the gross enrolmenment of pupils in the entire school.The results are reported as follows:

4.4 Random effects regression for total enrolment

Looking at the total school enrolment, we analyzed the data using the total primary school's enrolment for standard one to standard eight, in the sampled 30 schools over the period 1993-2013. Since we are using a sample, random effects model is preferred to the fixed effects model. Further the Wald test chooses random effects model and rejects the pooled OLS model. The Wald test results using the entire enrolment are presented in table 4.4

Table 4.4 Wald test for total enrolment:

TEST STATISTIC	VALUE	DEGREES OF FREEDOM	PROBABILITY
F-statistic	4.54E+08	(5, 625)	0.000
Chi-square	2.27E+09	5	0.000

Since the probability of the F- statistics is less than 5 percent significance level, then we conclude that random effects model is the most appropriate model.

The results of random effects regression on the enrolment of the entire school are given in the table 4.5 below.

Table 4.5 Random effects model for the total enrolment

	COEFFICIENT	STD ERROR	t-STATISTIC	PROBABILITY
CONSTANT	0.038715	0.061938	0.62506	0.5322
TEACHER: PUPIL RATIO	-0.00052	0.001453	-0.358029	0.7204
CLASS SIZE	8.999866	0.001729	5203.951	.0000
NUMBER OF STREAMS	0.001337	0.047037	0.028434	0.9773
CDF	1.492407	0.808099	1.846811	0.0452

	EFFECTS SPECIFICATION	
	t-STATICTIC	PROBABILITY
Cross-section random	0.019481	0.0137
Period random	0.026487	0.0253

WEIGHTED STATISTICS	
No. of observations	300
R-squared	0.999996
F-statistic	41521473
Prob (F-statistic)	0.000
Durbin-Watson stat	1.857389

UNWEIGHTED STATISTICS	
R-squared	0.999997
Durbin-Watson stat	1.82763

From the results, CDF allocation significantly determines the primary school enrolment in Kitutu Chache constituency for the 30 sampled primary schools for the period under study (1993-2013). This is shown by the probability of the CDF coefficient of 0.0452 which is less than 5 percent. It shows that a one percent increase in the CDF allocation to Kitutu Chache constituency leads to an increase in overall primary school enrolment by approximately 1.5 pupils.

Similarly a one unit change in class size increases gross enrolment of the entire school by approximately 9 pupils. In addition from the effects specification, we find that both the cross – sectional and the period random effects significantly determine the total enrolment in the 30 sampled primary schools at Kitutu Chache constituency, as shown by the $P < 0.05$

CHAPTER FIVE

5.0 SUMMARY AND CONCLUSION

5.1 Introduction

This chapter covers the summary of the results, conclusion and the policy implication of the study. In the summary and conclusion we highlight the major findings of the study with respect to the estimated models.

5.2 Summary and conclusion of the results.

The study sought to establish the effects of fiscal decentralization through CDF on the primary school enrolment in Kitutu Chache constituency. Fiscal decentralization was measured by the amount of Constituency Development Fund allocation among different primary schools sampled. The study covered two periods; period prior to the CDF and free primary education (1993 – 2002) and the period after the CDF and free primary education (2003 - 2013) using a sample of 30 primary schools.

From the analysis we find that in both periods, class size and the number of streams are the only factors that positively and significantly influence total enrolment in standard one in sampled public primary schools. The pupil-teacher ratio has a negative though insignificant effect on the total enrolment to standard one. Upon the introduction of the CDF and the free primary education we find that the status quo remains since the CDF allocation has no significant effect on the total annual enrolment to standard one in the sampled schools.

A further estimation of the effects of CDF allocation to primary schools on the total enrolment of pupils to those schools reveals a departure of the results from the earlier position looking at standard one enrolment only. CDF is now positively and significantly influencing total annual enrolment of pupils in the sampled primary schools in Kitutu Chache constituency for the period under study (1993-2013).

These results are very much in line with our hypothesis and indeed colloborates theoretical literature on the case for fiscal decentralization on the provision of public goods.

5.3 Policy interventions.

On the policy implication, the findings of this study go a long way in informing the effects of CDF allocation on the primary school enrolment in Kitutu Chache constituency. The study reveals that the CDF allocation has positive but insignificant effect on the standard one enrolment for the 30 primary school sampled, but a positive and significant effect on the entire primary school enrolment for the sampled schools.The insignificant influence on standard one enrolment can be attributed to a number of reasons.

First,most parents tend to shun public primary schools in the formative years of their children's schooling.In Kitutu Chache constituency, just like in other acreas across the country,most pupils in pre-school and right to standard one are enrolled in private academies offering more personalized attention and other systems such as the Montesorri early childhood development that is deemed more appropriate than what's offered at public primary schools.

Secondly, Most CDF funded projects in the primary schools take long to complete and as a result of the time lag between start and completion, may not significantly impact enrolment to standard one but definitely gets to impact total enrolment with time.

Third and perhaps key is that CDF mismanagement is rife in the constituencies and this is confirmed by Okung'u (2006), in a study that observed that projects are diverted to clans with kinship ties to the sitting member of parliament,whereas the rest lose out. There's generally poor expenditure priorities and CDF funds embezzlement in the local primary schools. This scenario can in turn be explained by the weak fiscal management capacity of the local jurisdictions and this falls in line with the theoretical bottlenecks of fiscal decentralization development strategiess.

From the foregoing discussions, rural development programs have become fundamental in improving the lives of people in the rural settings. CDF has played a key role in the uptake of primary education opportunities in the sampled schools in Kitutu Chache constituency. Establishing more schools means that children will walk shorter distances to schools, More teachers have been employed by the school management boards through the CDF kitty. More reading materials have been purchased to aid learning in those schools and needy pupils have

been supported though the CDF bursary kitty. We can therefore conclude that on the overall, fiscal decentralization in Kenya through the Constituency Development Fund has had a positive influence on the uptake of primary education, in line with the government's policy of attaining universal primary education and meeting the Millenium Deevelopment Goal by the year 2015

Our recommendation therefore is for CDF committees to give more allocation to primary schools to enable them meet these expenditures to boost education. For maximum gains, we also call upon the local and national CDF management committees to be more vigilant so as to avoid unnecessary seapage of these public funds through embezzlement, and to encourage more community participation in the design and implementation of these projects

5.4 Areas of further research

This research paper only highlighted the impact of CDF allocation to schools on the gross enrolment of pupils in standard one, and separately on the Impact of CDF on the entire annual primary school enrolment in the 30 sampled primary schools. The research doesn't delve into the all important aspect of the effect of fiscal decentralization through CDF on the education outcomes. I would recommend further research on this area; specifically to determine if fiscal decentralization in Kenya through CDF has had any impact on the performance of pupils in national examinations (KCPE and

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