# FISCAL DECENTRALIZATION AND MAINTENANCE OF ROADS

## IN HARGEISA SOMALILAND

BY

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# A THESIS SUBMITTED TO THE COLLEGE OF HIGHER DEGREES AND RESEARCH IN PARTIAL FULFILMENT OF THE REQUIREMENT FOR THE AWARD OF THE MASTER DEGREE IN PUBLIC ADMINISTRATION AND MANAGEMENT AT KAMPALA INTERNATIONAL UNIVERSITY
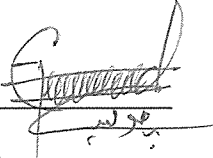
NOVEMBER, 2014

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"This thesis is my original work and has not been presented for a degree or any other academic award in any university or institution of Higher learning"

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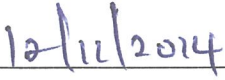Name and the signature of candidate

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"I confirm that the work reported in this thesis was carried out by the candidate under my supervision".

DR: ABUGA MOKONO ISAAC

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# DEDICATION

I dedicated this thesis to my mother Fadumo Mohamed, my sister Umalkhayr and to my brothers Mustafe, Abdishakur, and Abdifatah.

# ACKNOWLEDGEMENT

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# LIST OF ACRONYMS

| | |
|---|---|
| ADB | Asian Development Bank, |
| ALGAS | Association of Local Government Authorities Somaliland |
| APA | Academy of Peace and Development |
| BC | Before Christ |
| CEE | Central and Eastern Europe |
| DC | Developing Countries |
| DC | District Council |
| GDP | Gross Domestic Product |
| HLG | Hargeisa Local Government |
| LG | Local Governments |
| MO | Ministry of Finance |
| MOI | Ministry of Interior |
| OECD | Organization for Economic Cooperation and Development |
| P.M.S. | Pavement Management System |
| RAMS | Road Asset Management System, |
| SL | Somaliland |
| UN JPLG | United Nations Joint Programme on Local Governance |
| UN | United Nations |
| UNCDF | United Nations Capital Development Fund |
| UNCT | United Nations Country Team |
| UNDG | United Nations Development Group |
| UNDP | United Nations Development Program |
| UN-HABITAT | United Nations Human Settlements Programme |
| UNTP | United Nations Transition Plan for Somalia |
| US | United States |
| USAID | United Nation Agency for International Development |
| WB | World Bank, |

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# ABSTRACT

This study was set to investigate fiscal decentralization and maintenance of roads in Hargeisa Somaliland. The study was guided by three specific objectives; (i) to determine level of the fiscal decentralization in Hargeisa Somaliland, (ii) to determine level of the maintenance of roads in Hargeisa Somaliland and (iii) objective three was to find out if there is significant relationship between fiscal decentralization and maintenance of roads in Hargeisa Somaliland. This study employed the descriptive survey design specifically the descriptive correlation to establish the relationship between variables, this deals with the relationship between variables, testing of hypothesis and development of generalizations and use of theories that have universal validity. Descriptive surveys are used to discover causal relationships. The study involved a sample of 108 respondents selected from a population of 149 based on sloveine formula. The major findings indicate that the majority of the respondents were male (81.5%). The majority of the respondents disagreed with the level of fiscal decentralization, the grand mean was (2.395 fair). Level of the maintenance of roads is fair (mean 2.362 fair). The Pearson's correlation shows a significant and positive relationship between the levels of fiscal intergovernmental system and road maintenance resources (r=0.731; sig. =0.000). Also the correlation analysis between fiscal decision making and road maintenance effectiveness yielded a rank of correlation value of (r=0.510; sig. =0.000) this depicts that there exists a strong relationship. The study concludes that is significant relationship between fiscal decentralization and maintenance of roads in Hargeisa Somaliland. Fiscal decentralization involves the central government and local government to get sustainable services like maintenance of roads. It involves putting in place a fiscal resources and fiscal decision making in resource mobilization, resources allocation and fiscal capacity. The recommendations arising from the pertinent discussion and conclusions of this study, following the study objectives and hypotheses: The local and central government levels need to reform fiscal decentralization, so that they can realize effective road maintenance. Local governments need to have adequate and sustained sources of revenue, so that they can be responsive to the needs of road maintenance. Central governments should reform fiscal decentralization system in order to improve the local government functions. The local governments need to   enhance maintenance of roads and service delivery capacity should therefore be sustained and strengthened.

# CHAPTER ONE

# INTRODUCTION

## 1.0.   Introduction

This chapter presents the background of the study, statement of the problem, objectives of the study, research questions, hypothesis, scope of the study, significant of the study and operational definitions of key terms.

## 1.1.   Background Study

## 1.1.2. Historical perspective

In the last two decades there has been a worldwide interest in decentralization of government in all parts of the world. The pursuit of decentralization is widespread, as both developed and developing countries attempt to challenge central governments' monopoly of decision-making power and fiscal decentralization. In the western world, decentralization is an effective tool for reorganization of the government in order to provide public services cost effectively in the "post-welfare state" era (Bennett, 1990; Wildasin, 1997). Developing countries are turning to decentralization to escape from the traps of ineffective and inefficient governance, macroeconomic instability, and inadequate economic growth (Bird and Vaillancourt, 1999). Throughout post-communist Central and Eastern Europe, decentralization of the state is the direct result of the transition from socialist system to market economy and democracy (Bird, Ebel, and Wallich, 1995). Since the 1980s, decentralization and globalization are topics in politics in most European and in developing countries (The World Bank Premnotes, 2001; BiZa, 1980).

In 1960s and 1970s, the United States, like many nations both developed and developing embarked upon a strong centralization of government policy and functions. Central government expenditures of 15 percent of GDP in 1960 doubled to 30 percent by 1985 (World Bank, 1997). However, in the United States, the 1980s and 1990s saw a resurgence of interest in strengthening state and local governments and restraining the growth of the national government. That pattern was repeated in other nations. By the mid-1990s, 62 of 75 developing nations with populations over 5 million were embarked on some form of fiscal decentralization (World Bank, 1997).

Fiscal Decentralization also has become part of a world-wide "reform" agenda, supported by the World Bank, USAID, the Asian Development Bank, and many others, and has become an

integral part of economic development and governance strategies in developing and transitional economies (Bahl, 1999a). Along with "globalization," fiscal decentralization and the desire for local discretion and devolution of power is seen by the World Bank as one of the most important forces shaping governance and development today (World Bank, 1999).

The first pathways were the trails made by animals have not been universally accepted, since in many cases animals do not follow constant paths. Others believe that some roads originated from following animal trails. Where man and animal are both selected the same natural line. They were used by human travelers. The world's oldest known paved road was laid in Egypt sometime between 2600 and 2200 BC. The Porta Rosa is a Greek street dating from the 3rd to 4th century BC in Velia with a paved surface and gutters. Stone-paved streets are found in the city of Ur in the Middle East dating back to 4000 BC. Corduroy roads (log roads) are found dating to 4000 BC in Glastonbury, England.

## 1.1.2. Theoretical perspectives

The study was based on the Revenue Assignment Theory (1983), proposed by Musgrave, (1983) cited in Oates (1999) and Bordignon and Ambrosanro (2006), according to this theory identifies three distinct fiscal functions of every government. These are resource allocation, income redistribution and macroeconomic. Furthermore, the authors identify two broad extreme arguments on the development of revenue assignment for the various levels of government. These are the traditional normative approach and the public choice approach. The Traditional Normative Approach, was the first ever argument and was developed and championed by early writer Musgrave. The theory identifies three distinct fiscal functions of every government. These are resource allocation, income redistribution and macroeconomic stabilization (Musgrave, 1983). To share the three functions, Musgrave argue in favour of the central government to be in charge of the function of income redistribution and macroeconomic stabilization whereas the local governments handle the resource allocation fiscal function. The argument in support for the allocation above between the central and local government is that because of spill-over effects which would be difficult to internalize at local level, the responsibility. Income redistribution and macroeconomic stabilization should be assigned to central government, whereas resource allocation could be performed by all levels of government including the local government. The basis for this argument was on the assumption that optimal revenue assignment is strictly related

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to the normative optimal assignment of expenditure functions to levels of governments. The traditional approach practically did not consider the forces of political power exercise and bargaining which usually comes along with revenue assignment with different levels of government.

## 1.1.3. Conceptual perspective

According to Yaw-Nsiah (1997:12) defines fiscal decentralization as the transfer to sub-national governments of the power to mobilize, allocate and manage financial resources according to locally determined priorities.

The definitions of fiscal decentralization: is the devolution by the central government to local governments (states, regions, municipalities) of specific functions with the administrative authority and fiscal revenue to perform those functions. The Allocation Function is government's role in deciding the mix of public and private goods that are provided by the economy or by government. Each level of government may be more efficient in delivering certain governmental goods and services.

According to PIARC (1994) Road maintenance comprises "activities to keep pavement, shoulders, slopes, drainage facilities and all other structures and property within the road margins as near as possible to their as-constructed or renewed condition". Roads are among the most important public assets in many countries. Road improvements bring immediate dramatic benefits to road users through improved access to hospitals, schools, and markets; improved comfort, speed, and safety; and lower vehicle operating costs.

## 1.1.4. Contextual perspective

Somaliland is an independent self-declared state, which was part of the Somali Republic located in the Horn of Africa. Having declared its own government from Somalia since 1991, Somaliland remains unrecognized by many countries. Somaliland lies between latitudes 08°00' and 11°30' north of the equator and between 42°30' and 49°00' Meridian East of Greenwich. It is bordered by Djibouti to the West, Ethiopia to the South, and Somalia to the East (academy of peace and development, 2007). Somaliland has a land area of 137,600 km$^2$ and much of it lies along the Red Sea. Most people in Somaliland speak the region's two official languages: Somali and Arabic. They are about 3.5 million in number (Somaliland constitution, 2009). In December

2002, the people of Somaliland went to the polls for the first time in more than 20 years to elect local councils, of which 332 were elected. The elections of the local councils offered the populace a chance to exercise their right to choose their own local leadership, development of functional local government still remains questionable. The Academy of Peace and Development (APD) has been conducting various activities and research since December 2002 elections that are aimed at moving the process of decentralization forward. APD is also looking at the broader perspective such as policies, principles and laws that will be used to find out gaps and contradictions.

## 1.2.    Statement of the Problem

The deterioration of roads has continued to be a regional problem in Hargeisa local government council in Somaliland. The local government council of the Hargeisa has continued to establish projects to upgrade the already existing roads in order to provide effective services to people of Hargeisa. However, the efforts aimed at upgrading the transport systems have been frustrated the continuous deterioration of roads. The roads in the Hargeisa town council are characterized by poor sanitation and usually silted by the desert sand and by running water during the rainy seasons. Additionally drainage systems along the roads in Hargeisa Township have been blocked by the rubbish, sand making the movement of running water inevitably impossible causing floods that have hindered transport. The major indicators of the problem have been the floods that have become the face of the town during the wet season, motor accidents have become frequent in Hargeisa due the potholes causing massive deaths and destruction of property. According to (Jama A. P. Eng Elite B & H, Hargeisa Som 2010). The Department of Police, Traffic Section issues annual report on traffic accidents covering the entire country. In 2010 report, it mentioned a total death of accidents were 420 people and 160 injured in Hargeisa alone. The length of the roads in Hargeisa is $36km^2$. The main possible causes of this maintenance of roads are related to: shortage of road material, (equipment), inadequate capacity, corruption, poor fiscal decentralization and different leadership priorities. Poor road conditions have a negative effects in the future.  The negative consequences of the poor maintenance of roads influence economy growth and infrastructure of the country. Also if the problems continue it will lead to loss human and property. At that time the government had been conducting political decentralization to continue with their practical involvement with the local government institutions and also particular those dealing with land and local revenue. The researcher was

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examined/ investigated the extent to which poor fiscal decentralization can influence the maintenance of roads in Hargeisa Somaliland, there is no study had been conducting in Hargeisa Somaliland.

## 1.3. Research Objectives

**1.3.1. General objective:** the main objective of the study is determine the correlation between fiscal decentralization and maintenance of roads in Hargeisa Somaliland.

**1.3.2. Specific objective:** this study specifically seeks to achieve the following objectives:

i.   To determine the effect of fiscal decentralization in Hargeisa Somaliland.

ii.  To determine the influence of maintenance of roads in Hargeisa Somaliland.

iii. To determine if there is significant relationship between the level of fiscal decentralization and the level of maintenance of roads in Hargeisa Somaliland.

## 1.4. Research Questions

i.   What is the level of fiscal decentralization in Hargeisa Somaliland?

ii.  What is the influence of maintenance of roads in Hargeisa Somaliland?

iii. Is there a significant relationship between level of fiscal decentralization and the level of maintenance of roads in Hargeisa Somaliland?

## 1.5. Null Hypotheses

$H_0$ There is no significant relationship between the level of fiscal decentralization and the level of maintenance of roads in Hargeisa Somaliland.

## 1.6. Scope

**1.6.1. Geographical Scope**

Geographically, this study took place at six districts in Hargeisa, Somaliland. The six districts namely Ibrahim Koodbur, 26 june, G.libaax, M. Mooge, A. dhagax and M. Haybe which are located in Hargeisa Somaliland, especially Hargeisa the capital city of Republic of Somaliland. These districts were selected because it has the largest number of roads in the Hargeisa town council.

**1.6.2. Theoretical Scope**

The study was based on the Revenue Assignment Theory (1983), proposed by Musgrave, (1983) cited in Oates (1999) and Bordignon and Ambrosanro (2006), according to this theory identifies three distinct fiscal functions of every government. These are resource allocation, income redistribution and macroeconomic. Furthermore, the author identify two broad extreme

arguments on the development of revenue assignment for the various levels of government. These are the traditional normative approach and the public choice approach.

### 1.6.3. Content Scope

The variables investigated upon this study include fiscal decentralization which was broken into fiscal intergovernmental system in terms of expenditures, revenues, intergovernmental transfers and Subnational Borrowing/Debt, and fiscal decision making & capital finance. The other variable is maintenance of roads was broken into road maintenance resources and maintenance effectiveness.

### 1.6.4. Time scope

This study covered a period of one year from Jan 2014 to Dec 2014.

### 1.7.    Significance of the Study

The following stakeholders will benefit from the findings of the study.

The local government/ maintenance of roads officers an aimed at achieving the objectives of effective roads maintenance and recognize the role they have to play the maintenance of roads.

The central government findings of the study contributed central government towards a better roads in terms of quality and quantity, its significance to know the fiscal decentralization and greatly contribute, and to understand the role they have to play, it allocate and distribute local government funds in roads, to know decentralization an effective tool for reorganization of the government in order to provide public services cost effectively in the post- welfare state.

The future researchers will utilize the findings of this study to embark on a related study.

### 1.8.    Operational Definitions of Key Terms

**Fiscal decentralization,** as the transfer to sub-national governments of the power to mobilize, allocate and manages financial resources according to locally determined priorities.

**Maintenance of roads,** activities to keep pavement, shoulders, slopes, drainage facilities and all other structures and property within the road margins as near as possible to their as-constructed or renewed condition.

**Roads,** means to transport, make a crucial contribution to economic development and growth and bring important social benefits.

CHAPTER TWO

RELATED LITERATURE

## 2.0    Introduction

This chapter presents the related literature based on previous studies and what other authorities world over and the literature review is done with a view of throwing more light on the study problem and identifying literature gaps. The first section presents related literature on the level fiscal decentralization, maintenance of roads, the theoretical perspectives and related studies.

## 2.1 Theoretical Review

The study was based on the Revenue Assignment Theory (1983), proposed by Musgrave, (1983) cited in Oates (1999) and Bordignon and Ambrosanro (2006), according to this theory identifies three distinct fiscal functions of every government. These are resource allocation, income redistribution and macroeconomic. Furthermore, the authors identify two broad extreme arguments on the development of revenue assignment for the various levels of government. These are the traditional normative approach and the public choice approach. The Traditional Normative Approach, was the first ever argument and was developed and championed by early writer Musgrave. The theory identifies three distinct fiscal functions of every government. These are resource allocation, income redistribution and macroeconomic stabilization (Musgrave, 1983). To share the three functions, Musgrave argue in favour of the central government to be in charge of the function of income redistribution and macroeconomic stabilization whereas the local governments handle the resource allocation fiscal function. The argument in support for the allocation above between the central and local government is that because of spill-over effects which would be difficult to internalize at local level, the responsibility. Income redistribution and macroeconomic stabilization should be assigned to central government, whereas resource allocation could be performed by all levels of government including the local government. The basis for this argument was on the assumption that optimal revenue assignment is strictly related to the normative optimal assignment of expenditure functions to levels of governments. The traditional approach practically did not consider the forces of political power exercise and bargaining which usually comes along with revenue assignment with different levels of government. The traditional normative approach provided some guidelines for the setting of sub-national taxes. These guidelines were developed on efficiency grounds for local development. These are: (1) Local government should levy taxes on relative immobile assets such as land,

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buildings etc. in order to prevent tax competition and revenue losses. (2) Levy taxes on bases evenly distributed among jurisdictions in order to prevent horizontal fiscal imbalance, and (3) They should levy taxes whose yield is relatively stable in real terms to ensure expenditure planning (Bordignon & Ambrosanio, 2006). Lastly, the traditional normative approach was criticised to be purely an academic or theoretical approach which is likely to face a lot of challenges when applied to real life situation, thus cannot stand the test of time. Local governments in reality are concerned with income redistribution, for instance, in maintenance of roads, education and health care sectors and rather make less use of benefits taxes as the theory indicates.

## 2.2. Conceptual Framework
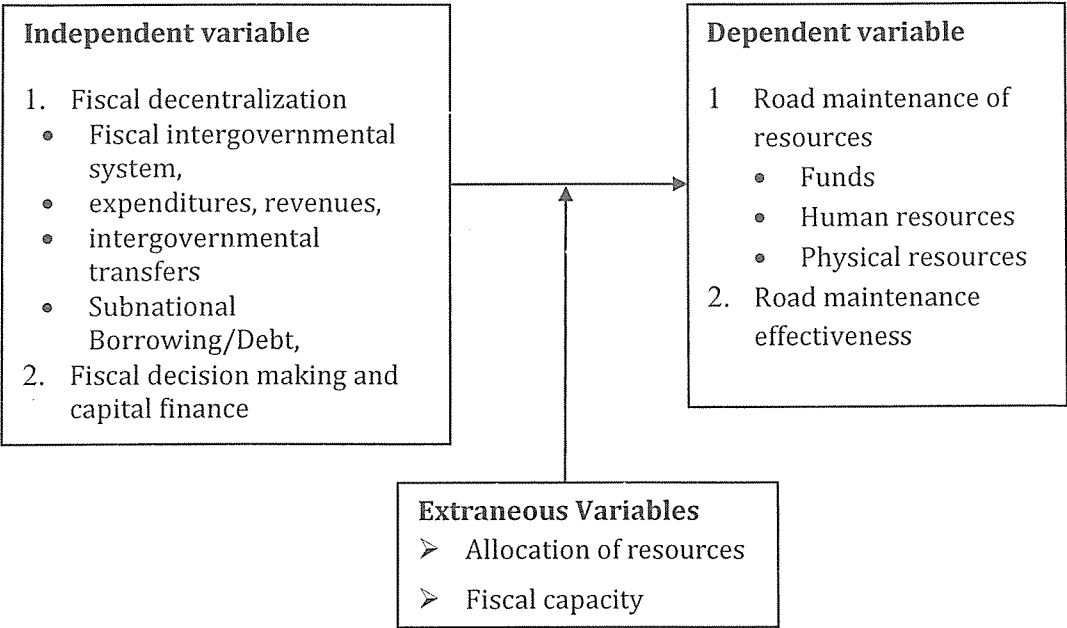


Source: researcher 2014

Figure 1: Conceptual Framework

Basing on the theory of the study, the conceptual framework explained the variables of the study, showing the relationship between fiscal decentralization and road maintenance. In which fiscal decentralization was analyzed by considering Fiscal decentralization(Fiscal intergovernmental system, expenditures, revenues, inter-governmental transfers, Sub-national Borrowing/Debt,) and, Fiscal decision making and capital finance .Then road maintenance was analyzed by considering; Funds, Human resources, Physical resources effectiveness,

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## 2.3. The level of Fiscal Decentralization

According to Yaw-Nsiah (1997:12) defines fiscal decentralization as the transfer to sub-national governments of the power to mobilize, allocate and manage financial resources according to locally determined priorities.

According to (World Bank, 2003) Fiscal decentralization is an issue of considerable practical importance facing many developing economies and has been championed by international bodies such as the World Bank and the Organization for Economic Cooperation and Development.

According to Bahl, (1999) definition of Fiscal decentralization is the devolution by the central government to local governments (states, regions, municipalities) of specific functions with the administrative authority and fiscal revenue to perform those functions. Fiscal decentralization (which includes externally and internally generated sources of revenues) has therefore become the main issue in the decentralization process in many developing countries. It has been considered crucial for the effectiveness of the decentralized institutions, without which the local governments cannot achieve the desired developmental goals at the local level. Thus, the absence of fiscal decentralization implies the decentralized institutions would not have the financial means to implement projects. Bahl and Linn (1992:368) argue that fiscal decentralization has the tendency to increase the satisfaction with government services by local people. Fiscal decentralization comprises the financial aspects of devolution to regional and local government. It is the currently fashionable term; the alternative descriptions "central-local (or intergovernmental) financial relations" and "fiscal federalism" are often used by European and American writers respectively.

Fiscal decentralization covers two interrelated issues. The first is the division of spending responsibilities and revenue sources between levels of government (national, regional, local etc.) The second is the amount of discretion given to regional and local governments to determine their expenditures and revenues (both in aggregate and detail). *Fiscal decentralization* sets the framework of expenditures, revenues and legal discretion within which regional and local governments operate. It does not deal with issues of *financial management*, the processes of budgeting, accounting, delegation, procurement, auditing etc. by which individual local governments manage their financial affairs. These are equally important, but the subject of a separate body of law and practice.

## 2.3.1 Fiscal Intergovernmental System

The design of a decentralized system requires "sorting-out" of public sector responsibilities among different types of governments and the process of sorting out entails transfer of some decision-making powers from central to subnational governments (Ebel, Varfalavi and Varga, 2000). Ideally, to achieve the relevant policy objectives, intergovernmental fiscal system should be designed based on each country's specific circumstances. The policy objectives should include not only the public finance goals of efficiency, transparency, and accountability but also should aim at maintaining national integrity and political stability and being equitable to different people and places. Such a design is based on four pillars: expenditure assignment, revenue assignment, intergovernmental transfers/grants, and subnational debt/borrowing (Bird, 2000).

## 2.3.2 Expenditures

Expenditure assignment is the first step in designing an intergovernmental fiscal system. Designing revenue and transfer components of a decentralized intergovernmental fiscal system in the absence of concrete expenditure responsibilities would weaken decentralization process (Martinez-Vazquez, 1998). In Latin America and Eastern Europe, many countries have focused only on the revenue side of decentralization and neglected a clear assignment of expenditure responsibilities, which led to weak decentralized systems and fiscally overburdened central governments. The lack of clarity in the definition of subnational responsibilities has a negative impact on three important respects. First, if the responsibilities are imprecise, the necessary corresponding revenues will remain poorly defined. Second, without clear responsibilities, subnational government officials might prefer to invest in populist projects which benefit them in the short run rather than in projects with long term impact on the region's economy (such as infrastructure, education, etc.).

## 2.3.3 Revenues

The essence of decentralization is that subnational governments have the authority and responsibility to own-finance local services at the margin. Complete fiscal autonomy over revenues requires that in principle local governments can change tax rates and set tax bases. The general principles of revenue assignment to different levels of government are listed in fiscal

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federalism and local government finance literature as (Oates, 1972; Bird, 2000): The tax base assigned to subnational governments should be immobile in order to allow local authorities some freedom to vary rates without the base vanishing. Inter-jurisdictional mobility of tax base makes taxation of mobile factors difficult to subnational governments. Property taxes are comprised of two components: (A) Taxable Value; multiplied by the; (B) Millage Rate. Taxable Value Discuss. State shared revenue is not a gift to local units. This has been a planned part of Michigan's local tax strategy intended to: Smooth out the tax burden among residents; and Smooth out the tax burden among residents.

### 2.3.4 Subnational Borrowing/Debt

There are three primary reasons why subnational borrowing can be considered as an appropriate tool for subnational public finance. Intergenerational equity the benefits of certain investment projects, such as infrastructure and education, are spread over time, which means that not only present residents of a locality, but also future residents will consume the services provided by the projects. Therefore, the benefit principle of taxation suggests that future residents should also contribute the cost of investment. For this purpose borrowing is an appropriate tool that offers a means through which payments for capital projects can be spread over the life of the project so as to coincide more closely with the stream of future benefits (Oates, 1972).

### 2.3.5 Intergovernmental Transfers

The revenue and expenditure assignments give rise to vertical and horizontal imbalances within a nation's intergovernmental finances. In fact, every intergovernmental transfer system has two dimensions: (i) the vertical dimension, concerned with the distribution of revenues between central and local governments; and (ii) the horizontal dimension, concerned with the allocation of financial resources among the recipient units.

### 2.4. Fiscal decision making & Capital Finance

Capital expenditure is normally financed from one or more of the following sources:

**Grants** are still quite common despite State Budget constraints, sometimes backed by donor funds or environmental penalties. In a number of CEE countries there are concerns that such grants lack a normative base of distribution. Whilst transparent formulae have been developed for grants or tax shares in support of current expenditure, these do not apply to investment funds

which are still regarded as an instrument of political patronage. One partial safeguard would be a requirement that the availability of investment grants and the criteria for their award should be advertised so that all eligible authorities have the opportunity to submit bids. Operating surplus represents the excess of current revenue over current expenditure. This may be planned in the annual budget, or simply emerge from its realization, creating reserves which can be invested in capital development.

**Loans** are frequently taken to finance large capital investments which cannot be funded from annual revenues. They are a particularly appropriate source for long term investments which will produce additional revenue. However, ability to repay capital and interest clearly needs careful calculation. Both lender and borrower should be sure that debt service can be covered either by an increase in the income from relevant user charges or by reliable operating surplus.

**Local Discretion:** Clearly, the structure of local government responsibilities and resources makes a substantial difference to its discretion its ability to make decisions over the nature and levels of local services.

## 2.5.The level of Maintenance of Roads

According to PIARC (1994) Road maintenance comprises "activities to keep pavement, shoulders, slopes, drainage facilities and all other structures and property within the road margins as near as possible to their as-constructed or renewed condition".

Roads, and means of transport, make a crucial contribution to economic development and growth and bring important social benefits. Poorly maintained roads constrain mobility, significantly raise vehicle operating costs, increase accident rates and their associated human and property costs, and aggravate isolation, poverty, poor health, and illiteracy in rural communities. This Note highlights the economic and social importance of regular road maintenance

## 2.5.1 Road maintenance resources (funds)

Optimized use of available funding in undertaking road maintenance. This is the "unapparent" or hidden service delivery. By utilizing budgets correctly, roughness affects road users' costs in a several ways. It reduces vehicle speeds, which increases time taken and alters fuel consumption. Greater rolling resistance increases fuel consumption given speed. Roughness causes wear and tear on vehicles, in particular, on tires. Road user cost models feature a relationship between

speed and volume capacity ratio, which takes account of 'free speed' and congestion. At low volume capacity ratios, where there is no congestion, vehicles travel at free speed. Roughness impacts on free speed. Maintenance optimizations on other platforms with greater optimization capabilities require simple user cost relationships. Such relationships can be obtained by regressing of road user cost estimates per vehicle kilometer from HDM4 against roughness and other variables that affect road user costs such as 'rise and fall', curvature and payload. Typically, for optimization modelling, the relationship between roughness

## 2.5.2 Road Maintenance and Service Delivery

What is "service delivery" in terms of the maintenance of a municipal road network? It can be considered in two separate but intrinsically linked ways: Service delivery, in the first instance, is the provision of a road network that is safe and comfortable to use, and where maintenance is effected before defects become hazardous. This is the "apparent" service delivery that the road user (driver or passenger) can physically see and, perhaps more importantly (from their perspective), feel. The second is the efficient, optimized use of available funding in undertaking road maintenance. This is the "unapparent" or hidden service delivery. By utilizing budgets correctly, more maintenance can be carried out per Rand there by mitigating wasteful expenditure. This is economic service. For medium and large networks, the lack of a management plan renders effective and efficient "pro-active" preventative maintenance impossible. The accepted method (worldwide) of managing routine and periodic road maintenance is by the use of a computerized Road Asset Management System, (R.A.M.S), also referred to as a Pavement Management System (P.M.S).

## 2.5.3 Road Maintenance resources (Human and Physical Resources)

Recognized, qualified professionals and technicians who possess a demonstrated ability and understanding in applying of sound resource road engineering practices should conduct field inspections of roads. Ideally, these individuals should have the following knowledge and skills: a thorough understanding of terrain and landslide processes and forest hydrology, a thorough understanding of road reconstruction, maintenance, and deactivation practices, an ability to recognize field indicators of active or potential road-related problems, an ability to make rational recommendations for remedial action and the common sense to know when to seek the assistance of specialists.

1. **Routine maintenance**, which comprises small-scale works, conducted regularly, aims "to ensure the daily possibility and safety of existing roads in the short-run and to prevent premature deterioration of the roads" (PIARC 1994). Frequency of activities varies but is generally once or more a week or month. Typical activities include roadside verge clearing and grass cutting, cleaning of silted ditches and culverts, patching, and pothole repair. For gravel roads it may include regarding every six months.

2. **Periodic maintenance**, which covers activities on a section of road at regular and relatively long intervals, aims "to preserve the structural integrity of the road" (WB Maintenance website). These operations tend to be large scale, requiring specialized equipment and skilled personnel. They cost more than routine maintenance works and require specific identification and planning for implementation and often even design. Activities can be classified as preventive, resurfacing, overlay, and pavement reconstruction. Resealing and overlay works are generally undertaken in response to measured deterioration in road conditions. For a paved road repaving is needed about every eight years; for a gravel road re-graveling is needed about every three years.

3. **Urgent maintenance** is undertaken for repairs that cannot be foreseen but require immediate attention, such as collapsed culverts or landslides that block a road. Does not include rehabilitation, building shoulders, or widening roads. If the sections to be rebuilt constitute more than 25 percent of the road's length, the work is rehabilitation, not maintenance.

## 2.5.4 Maintenance effectiveness

Leave the road open for regular use, upgrade it to current standards if necessary, then inspect and maintain it. The road is called a "maintained road." You must name the agency or organization responsible for inspections and maintenance. Inspect and Maintain Roads and Bridges. If you decide to reinstate regular inspection and maintenance operations on abandoned road systems, clearly name the agency or organization that is responsible for the inspection and maintenance. The named agency or organization should carry out corrective action on these road systems as soon as possible to address any identified erosion and slope stability hazards. Abandoned roads could be maintained under the requirements of Road Use Permits, Cutting Permits, Special Use Permits, or other tenure obligations. Deactivate the road to a temporary, semi-permanent, or

permanent level, based on the term and type of access desired. For sites that have very difficult access or that are partly recovering (i.e., re vegetated), leave the road alone if site works could do more harm than good.

## 2.5.5 Effectiveness of Road Assessments

Mechanisms of Road Assessments a field road Assessment, you conduct an overview examination of the road network and related structures. This level of field assessment is required only if more information is needed to complete. A field road Assessment, you conduct a more detailed examination and prescribe treatments. This level of field assessment is conducted after completing. Effective ways to achieve sustainable road maintenance with scarce public resources. In an effective system, the order of priority of maintenance activities would be such as, routine Drainage Works including clearing of ditches, clearing of culverts, clearing of bridges, clearing of river channels, repairs of erosion damage, repairs to scour checks and other minor drainage structures, repairs of culverts and other large structures, repairs of embankment slopes, routine Pavement Works including filling of potholes, repairs to shoulders, recurrent Maintenance Grading- gravel surfaced roads only, other Routine Maintenance Works including grass and bush cutting, cleaning, repairing, replacing road signs

## 2.6.Related Studies

According to Anderson and Vandervoort (1982:28). USAID-funded maintenance of roads, empirical that: Involvement of local people in selection. Construction and maintenance of roads had several advantages. It laid the basis for road maintenance. Communities also found themselves better able to obtain more government services by forcing development programs to be more responsive to their needs. Local people began building more constructive relationships with higher levels of government and organized more effectively to protect their interests.

As Tendler (1979:58-59) notes, popular participation is not a necessary result of decentralized approaches to road management, fiscal decentralization should improve the likelihood of local involvement. Furthermore, evidence suggests that decentralization can improve the longer-ten sustainability of roads. Again, quoting from Anderson and Vandervoort (1982:11). "Decentralization of the road construction process or the active involvement of local governments and communities was an essential ingredient of successful institutionalization." The relative benefits of decentralized over centralized road management systems are partly due

to the constraints and incentives faced in highly centralized systems. When both construction and maintenance operations are managed by the same centralized agency, conflicts arise over the priorities assigned to each of these tasks. In most cases, construction wins out over maintenance. Since the fanner attracts greater political support and is by far the more glamorous activity. As it requires greater levels of engineering expertise (National Research Council. 1979:3). In addition, the road agency is likely to be already overextended with respect to management resources. Extending maintenance to rural roads may be beyond the capabilities of such agencies. Even when a centralized agency has the ultimate responsibility for maintenance of road services. It is generally recognized that authority and responsibility for maintenance should be delegated to the lowest levels possible. Robinson (1988:7).

Cook et al. (1985:28) *empirically claimed* that sudden decentralization of the Secondary Roads Maintenance Service (SERS) in Upper Volta led to efficiency losses. Similarly the World Bank found that decentralization in Kenya and Honduras apparently led to excessive employment of pen anent workers at the local level (Harrall and Faiz, 1988:19). Beenhakker(1987:168-172) notes ways in which decentralized management can gain the most from local participation in the planning, construction, and maintenance of roads.

Zax (1989), noting that the effects of decentralization are complex, Zax (1989) finds that electoral considerations lead to significantly higher levels of spending in US states and municipalities which permit initiatives. Humplick and Moini-Araghi (1996) find that unit costs of road maintenance are lower and roads of better quality where maintenance is decentralized.

Fisman and Gatti (2000) find that fiscal decentralization is consistently associated with lower measured corruption across a sample of countries. For a sample of 80 countries, Huther and Shah (1998) find positive correlations between decentralization and indices of political participation, social development, a quality index of economic management, and an overall quality of government index, from all of which they infer causal relationships. And finally, Galasso and Ravallion (2000) use careful econometrics to show that pro-poor program benefits increased with decentralization in Bangladesh.

Opponents (Crook and Sverrisson, 1999; Smith, 1985) counter that local government's lack of human, financial and technical resources will prevent it from providing appropriate public

services under fiscal decentralization, and thus power should remain in the hands of central governments that are relatively resource rich. Despite going to the heart of the fiscal decentralization debate, these claims have not been extensively tested. What evidence does exist is largely anecdotal and/or inconclusive. This paper seeks to answer the question of responsiveness clearly and convincingly for one remarkable case: Bolivia. I examine how decentralization changed local investment patterns across all Bolivian municipalities, and the extent to which these changes were related to objective measures of local need. Decentralization enhanced the responsiveness of government in the Philippines, India and Coˆte d'Ivoire. And a World Bank (1995) case study of Colombia shows that satisfaction with government and local services improved notably after decentralization. On the other hand,

Samoff (1990) finds the evidence on responsiveness strongly negative, asserting that decentralization schemes around the world have largely same how failed to work. They have neither enhanced local capacities nor improved local programs, in large part because they were neutralized by elaborate mechanisms of central supervision and control. Slater (1989) supports this view with a detailed example from Tanzania.

Tiebout, (1956), if greater decentralization increases number of alternative fiscal jurisdictions, any attempt to increase tax rates in one jurisdiction would result in migration of its residents to another jurisdiction (Tiebout, 1956). In Tiebout's analysis, taxpayers migrate to alternative jurisdictions in order to avoid higher taxes and inter jurisdictional competition limit excessive taxing power of the governments.

## 2.7.Research gap

The gaps that I found during this study. The related studies in this study was based on foreign countries that the most studies mentioned very little had been done in case of this continent Africa. Most empirical studies were considered decentralization as whole. There is still need to examine the relationship between the level of fiscal decentralization and maintenance of roads in Hargeisa Somaliland. These studies weren't explore the rate and the level of which fiscal decentralization influenced maintenance of roads in Hargeisa Somaliland. Therefore there was gap needed to fill in which the fiscal decentralization influence maintenance of roads to help the correlation and regression.

CHAPTER THREE

METHODOLOGY

## 3.0 Introduction

This chapter presents the methodology that the researcher employed. The research designs based on the research objectives. The sections of this chapter presents the research design, target population, Sample size and sampling procedure, research instrument, reliability and validity of instruments, data gathering procedures, data analysis, ethical consideration and limitations of the study.

## 3.1 Research Design

This study employed the descriptive survey design specifically the descriptive correlational strategies. Descriptive studies are non-experimental researches that describe the characteristics of a particular individual, or of a group. It deals with the relationship between variables, testing of hypothesis and development of generalizations and use of theories that have universal validity. Further, descriptive surveys are used to discover causal relationships (descriptive co relational), to provide precise *quantitative* description and to observe behavior (Treece and Treece, 1973).

## 3.2 Research Population

The target population included 149 districts service administrators and directors, selected in Hargeisa, city. The directors involved because it is the planning body of the government and the employee's staff being the implementers. Resources are basically organized by the administrative body and generally utilized by the managers and staffs.

## 3.3 Sample Size

In view of the nature of the target population where the number for both districts service administrators, directors, a sample was taken from each category. Table 1 below shows the respondents of the study with the following categories: district, target population and sample size. The Sloven's formula is used to determine the minimum sample size. $n = \dfrac{N}{1+N(e)^2}$ n =

$\dfrac{149}{1+149(0.0025)}$ 108

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Table 1

Respondents of the study

| Districts in Hageisa | Total target population | | Sample size | |
|---|---|---|---|---|
| | administrators | directors | Administrators | directors |
| Ibrahim Koodbur, 26june, G.libaax, | 45 | 25 | 35 | 17 |
| M.Mooge, A.dhagax M. Haybe | 50 | 29 | 37 | 19 |
| Total | 95 | 54 | 72 | 36 |
| Granf Total | 149 | | 108 | |

## 3.4 Sampling Procedures

The sampling utilized to select the respondents based on these criteria:

1. Male or female respondents in any of the district services administrators with experience ranging from one year and above

2. Directors of the local governments under study

From the list of qualified respondents chosen based on the inclusion criteria, the systematic random sampling used to finally select the respondents with consideration to the computed minimum sample size.

## 3.5 Research Instruments

The research tools that utilized in this study include the following: (1) *face sheet* to gathered data on the respondents' demographic characteristics (gender, age, qualifications, number of years worked experience and age); (2) *researcher devised questionnaires* to determine the levels of fiscal decentralization. These consist of options referring to fiscal intergovernmental system, expenditures, revenues, intergovernmental transfers and Subnational Borrowing/Debt (8 items), and fiscal decision making & capital finance (4 items). The other variable is maintenance of roads which was broken into road maintenance resources and maintenance effectiveness. The response modes and scoring indicated as follows: strongly agree (4); agree (3); disagree (2); strongly disagree (1) and also the study used interview guide to determine fiscal decentralization and maintenance of roads (4 items).

While a standardized instrument adopted from 17th Annual Local Authority Road Maintenance (ALARM) Survey 2012 publication embargo: 15 March 2012 in London, was used to determine levels of maintenance of roads. These consist of options referring to maintenance of roads

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resources (19 items) and maintenance of roads effectiveness (7 items). The scoring system of this instrument is as follows: strongly agree (4); agree (3); disagree (2); strongly disagree (1).

## 3.6    Validity and Reliability of the Instruments

Content validity ensured by subjecting the researcher devised questionnaires on fiscal decentralization and maintenance of roads to judgment by the content experts (who was estimated the validity on the basis of their experience) such as politicians (3), local councils (3) and service delivery directors (3) in government management. The validity of questionnaire were checked by discussing with expert judgment. The researcher computed the Content Validity from expert's judgment is called Content Validity Index (CVI). Minimum CVI to declare an instrument was Valid is 0.85

$$\text{CVI} = \frac{\underline{\text{Number of Question Declared Valid}}}{\text{Total Number of Questions}} \quad \frac{\underline{34}}{40} = 0.85$$

The test-retest technique used to determine the reliability (accuracy) of the researcher devised instruments to qualified respondents, from local councils. These respondents was not be included in the actual study. In this test- retest technique, the questionnaires was done by administering to the same subjects and items. The results was consistent and essentially the same in both times.

## 3.7    Data Gathering Procedures

## 3.7.1. Before the administration of the questionnaires

1. The researcher requested for an introduction letter from the School of Postgraduate Studies and Research addressed to the authorities of the government institutions under study for the researcher to be permitted to conduct the study

2. After approval, the requested list of respondents provided to the researcher secured a list of the qualified respondents from the government institutions in charge and select through systematic random sampling from this list to arrive at the minimum sample size.

3. The respondents explained about the study and requested to sign the Informed Consent Form (Appendix 3).

4. Reproduce more than enough questionnaires for distribution.

5. Researcher Selected research assistants in the data collection; brief and orient them in order to be consistent in administering the questionnaires.

### 3.7.2. During the administration of the questionnaires

1. Specifically, the researcher together with researcher assistants requested the respondents: (1) to sign the informed consent; (2) to answer all questions hence should not leave any item unanswered; (3) to avoid biases and to be objective in answering the questionnaires.

2. The researcher together with research assistants also tried retrieving the questionnaires within two weeks from the date of distribution. All questionnaires retrieved were checked if completely filled out.

### 3.7.3. After the administration of the questionnaires

The data collected organized, summarized, encoded into the computer and statistically treated using the Statistical Package for Social Sciences (SPSS).

### 3.8 Data Analysis

The frequency and percentage distribution was used to determine the demographic characteristics of the respondents.

The mean and standard deviations applied for the levels of fiscal decentralization, and maintenance of roads. An item analysis was illustrating the based on the indicators in terms of mean and rank. From these strengths and weaknesses, the recommendations was derived.

The following mean range was used to arrive at the mean of the individual indicators and interpretation:

A. For the level of fiscal decentralization and level of maintenance of roads.

| Mean Range | Response Mode | Interpretation |
|---|---|---|
| 3.26-4.00 | strongly agree | Very satisfactory |
| 2.51-3.25 | Agree | Satisfactory |
| 1.76-2.50 | Disagree | Fair |
| 1.00-1.75 | Strongly disagree | Poor |

A Pearson's Linear Correlation Coefficient (PLCC) used to determine if there is a significant relationship between the level of fiscal decentralization and the level of maintenance of roads, at 0.05 level of significance was employed and to test the null hypothesis. The regression analysis $R^2$ (coefficient of determination) was computed to determine the influence of the independent variables on the dependent variable.

## 3.9    Ethical Considerations

To ensure confidentiality of the information provided by the respondents and to ascertain the practice of ethics in this study, the following activities was implemented by the researcher:

1.  Seek permission to adopt the standardized questionnaire on government through a written communication to the author.
2.  The respondents and government was coded instead of reflecting the names.
3.  Solicit permission through a written request to the concerned officials of the local government and maintenance of roads in Hargeisa S/land included in the study.
4.  the respondents requested to sign in the *Informed Consent Form* (Appendix )
5.  Acknowledged the authors quoted in this study and the author of the standardized instrument through citations and referencing.
6.  Present the findings were generalized.

## 3.10    Limitation of the Study

In view of the following threats to validity, the researcher claim an allowable 5% margin of error at 0.05 level of significance. Measures are also indicated in order to minimize if not to eradicate the threats to the validity of the findings of this study.

**3. *Testing*:** differences in conditions and time when the data obtained from respondents by different persons on different days at different hours. This was minimized by orienting and briefing the research assistant on the sampling techniques and data gathering procedures.

**4. *Attrition/Mortality*:** Not all questionnaires were returned neither completely answered nor even retrieved back due to circumstances on the part of the respondents such as travels, sickness, hospitalization and refusal/withdrawal to participate. In anticipation to this, the researcher was reserved more respondents by exceeding the minimum sample size. The respondents was also reminded not to leave any item in the questionnaires unanswered and was closely followed up as to the date of retrieval.

# CHAPTER FOUR
# PRESENTATION, ANALYSIS AND INTERPERTATION OF DATA

## 4.0 Introduction

In this chapter, the results of the study are presented, analyzed, and interpreted precisely. The study used survey as a research designs and employed questionnaires to obtain data from the field. In order to show the distribution of the respondents on the various questions, presentation and analysis of the collected data following the study objectives. It specifically showed data on profile of the respondents, level of the fiscal decentralization, level of the maintenance of roads, significant difference in the level of fiscal decentralization and maintenance of roads in Hargeisa Somaliland and relationship between fiscal decentralization and maintenance of roads in Hargeisa Somaliland.

## 4.1 profile of the respondents

Respondents in this study were described according to gender, qualifications and working experiences, in each case, respondents were asked and used a closed ended questions to provide their respective profile information, to enable the researcher classify and compare them accordingly. Their responses were analyzed using frequencies and percentage distributions as summarized in this below table 4.1

**Table 4.1.**

| | Subcategories | Frequency | Percent |
|---|---|---|---|
| | **Gender** | | |
| Valid | Male | 88 | 81.5 |
| | Female | 20 | 18.5 |
| | Total | 108 | 100.0 |
| | **Age** | | |
| | 20-29 Years | 12 | 11.1 |
| | 30-39 Years | 29 | 26.9 |
| | 40-49 Years | 44 | 40.7 |
| | 50-59 Years | 17 | 15.7 |
| | 60 Years and above | 6 | 5.6 |
| | Total | 108 | 100.0 |
| | **Qualifications** | | |
| | Certificate | 26 | 24.1 |
| | Diploma | 36 | 33.3 |
| | Bachelors | 31 | 28.7 |
| | Masters | 10 | 9.3 |
| | PH.D. | 5 | 4.6 |
| | Total | 108 | 100.0 |
| | **Working Experience** | | |
| | 1 - 2 years | 50 | 46.2 |
| | 3 - 4 years | 33 | 30.6 |
| | 5 - 6 years | 16 | 14.8 |
| | 7 years and above | 9 | 8.3 |
| | Total | 108 | 100.0 |

**Source: Primary Data 2014**

Results table 4.1. Indicated in terms of gender, there were more male (81.5%) than female (18.5%). This implies that the respondents are dominated by male.

Similarly, it shows that a majority of the respondents 40.7% were aged between 40 - 30 years followed by 26.9% were aged between 30-39 years, 15.7% of the respondents are within the 50 - 59 years, 11.1% of the respondents are within the 20 - 29 years, and lastly 5.6% were the ages of 60 years and above. 40 - 49 aged respondents were the majority adult people with active memory hence information obtained from them can be trusted and looked at as a true good representation of the information the researcher looking was looking for.

In the case of their education background, 24.1% of the respondents were in certificate level, while 33.3% of the respondents were in diploma level, 28.7% of the respondents were bachelor holders, while 9.3% of the respondents were master holders and finally 4.6% of the respondents were PHD holders, and this implies that the majority of the respondents were in diploma level.

In case of the experience 46.2% of the respondents had an experience of 1 to 2 years, 30.6% of the respondents worked 3 to 4 years, 14.8% had an experience between 5 to 6 years while 8.3% of the respondents were working 7 years and above. From the findings the researcher observed that although the experience was not high the majority of the respondents had medium qualification since the majority of them were in diploma level.

## 4.2 The level of fiscal decentralization

The independent variable in this study was fiscal decentralization, broken into fiscal intergovernmental system and fiscal decision making and capital finance were measured using fourteen items all items on fiscal decentralization were Likerts scale using four points ranging between 1 strongly disagree 2 disagree 3 agree 4 strongly agree. The first objective in this study was to determine level of the fiscal decentralization for which respondents were required to indicate the extent to which they agree with each of items by filling in the number that best describes their perception. The respondents responses were analyzed and described using means as summarized in table 4.2 below.

**Table 4.2.**

| Indicators | Mean | Std. Deviation | Interpretations |
|---|---|---|---|
| **Fiscal intergovernmental system** | | | |
| Transfer funds to sub-national governments | 2.01 | .826 | Fair |
| Framework of revenues used is regional and local governments. | 2.70 | 1.255 | Fair |
| The current revenue and expenditure is planned in the annual budget. | 2.26 | 1.053 | Fair |
| The state properties are transferred to newly after the end of period. | 1.90 | 1.127 | Fair |
| Revenue obtain from local taxes is a significant proportion. | 3.40 | .985 | Very satisfactory |
| Revenue shares are fairly allocated. | 1.79 | .798 | Fair |
| The local taxes are shared between levels of local government. | 2.16 | .686 | Fair |
| Tax shares directly support expenditure of the service delivery. | 2.83 | 1.156 | Satisfactory |
| **Sub Grand mean** | **2.38** | | **Fair** |
| **Fiscal decision making in capital finance** | | | |
| Your budgets is based in area they are collected. | 2.92 | 1.078 | Satisfactory |
| The availability of grants are advertised. | 2.17 | 1.204 | Fair |
| Your target grants have been a planned. | 1.96 | 1.230 | Fair |
| Your loans is taken to finance large capital investments | 2.78 | 1.130 | Satisfactory |
| The appropriate source of capital finance is long term investments | 2.88 | 1.150 | Satisfactory |
| You have ability to repay capital without delay. | 1.94 | 1.066 | Fair |
| **Sub Grand mean** | **2.44** | | **Fair** |
| **Grand mean** | **2.395** | | **Fair** |

Source: Primary Data 2014

Table 4.2. Shows that the central government did not transfer funds to sub-national governments to a positive system, that the respondents disagree. (Mean 2.01) while the respondents agree that framework of revenues used is regional and local governments (Mean 2.70), the respondents disagree The current revenue and expenditure is not planned in the annual budget (Mean 2.26) also the respondents disagree that the state properties transferred to newly after the end of period. (Mean 1.90) move over the respondents strongly agree that the Revenue obtain from local taxes is a significant proportion (mean 3.40), table 4.2. Shows that the respondents disagree that the Revenue shares are fairly allocated with a mean of 1.79. Table 4.2 show that, the respondents strongly agree that the local taxes are shared between levels of local government. (Mean 2.16) lastly the respondents agree that the Tax shares directly support expenditure of the service delivery. (Mean 2.83).

From table 4.2, the majority of the respondents agree that state budgets is based in area they are collected by mean score of 2.92 .The table also indicated that the grants are not advertised with a mean of 2.17. The table 4.2 also shows that the majority of the respondents disagree that the target grants has been a planned by mean score of (1.96 fair), The majority of the respondents agreed that the loans taken to finance large capital investments with mean of (2.78 satisfactory) this indicated that the majority of the loans take to finance large capital investments. the appropriate source of capital finance is long term investments by mean score of (2.88 satisfactory) which indicated that the majority of the respondents agree The appropriate source of capital finance is long term investments lastly the respondents disagree that the ability to repay capital clearly and careful (Mean 1.94 fair). The grand mean indicated that the extent of the fiscal decentralization in Hargeisa Somaliland is fair (mean index 2.395 fair) this implies that the extent of fiscal decentralization is fair since the general mean shows disagree.

## 4.3 The level of maintenance of roads

The dependent variable in this study was maintenance of roads, which broken into Road maintenance resources (funds budget allocation, human resources and physical resources) and Maintenance effectiveness were measured using twenty six items, all items on maintenance of roads were Likerts scale using four points ranging between 1 strongly disagree 2 disagree 3 agree

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4 strongly agree. The second objective in this study was to determine level of the maintenance of roads for which respondents were required to indicate the extent to which they agree with each of items by filling in the number that best describes their perception. The respondents were responses were analyzed and described using means as summarized in table 4.3 below.

Table 4.3.

| Indicators | Mean | Std. Deviation | Interpretations |
|---|---|---|---|
| **Road maintenance resources ( funds, human resources and physical resources)** | | | |
| Road maintenance are financially supported regularly. | 2.00 | 1.032 | Fair |
| Service delivery for expansion and improvements are visible. | 1.91 | 1.107 | Fair |
| Service delivery fund does allow us to maintenance of roads | 2.48 | 1.098 | Fair |
| Directors are knowledgeable of the Service delivery road maintenance | 3.14 | 1.045 | Satisfactory |
| Costs for maintenance is planned. | 2.42 | 1.185 | Fair |
| You get funds from central government & it is enough | 2.12 | 1.117 | Fair |
| The Service delivery probably we spent other funds. | 2.35 | .950 | Fair |
| We receive the funds to keep roads at existing. | 1.86 | 1.080 | Fair |
| You need an additional money each year to keep control the roads. | 3.18 | 1.159 | Satisfactory |
| Your manpower inspect most and some roads are beyond repair | 2.69 | 1.027 | Satisfactory |
| Road maintenance material wide enough to treat collapse. | 1.91 | .902 | Fair |
| The labor are skilled & have ability to solve road problems. | 2.82 | 1.118 | Satisfactory |
| The current resources would cover the pothole and patches. | 1.78 | .989 | Fair |
| The point is to stop the deterioration is short time. | 1.78 | 1.026 | Fair |
| We require for maintenance immediate attention. | 2.94 | .984 | Satisfactory |

| | | | |
|---|---|---|---|
| The maintenance treatment deactivate the roads to a temporary. | 2.63 | 1.181 | Satisfactory |
| Your maintenance of roads is permanent | 1.85 | .935 | Fair |
| Pothole and patching caused accident and loss of the human and property. | 3.13 | 1.015 | Satisfactory |
| Facilities for maintenance treatment is clear identified | 2.50 | .922 | Fair |
| **Sub Grand mean** | **2.394** | | **Fair** |
| **Maintenance effectiveness** | | | |
| Road maintenance based only to get more information. | 1.81 | 1.024 | Fair |
| The road maintenance conduct a more prescribe treatments. | 2.59 | 1.068 | Satisfactory |
| Maintenance is mandatory strategic for all road rehabilitation. | 2.77 | 1.212 | Satisfactory |
| The road strategy is cover new high priority zones. | 3.14 | 1.063 | Satisfactory |
| Strategic operations require specialized equipment and skilled personnel. | 1.96 | 1.191 | Fair |
| Directors ensure the daily possibility and safety of existing roads. | 1.87 | 1.095 | Fair |
| Road strategic forecasting is only one season in year. | 2.19 | 1.080 | Fair |
| **Sub Grand mean** | **2.33** | | **Fair** |
| **Grand mean** | **2.362** | | **Fair** |

Source: Primary Data 2014

Table 4.3 shows that the Roads maintenance are financially supported regularly with a mean of 2.00, while the respondents disagree that Service delivery for expansion and improvements are visible. (Mean 1.91 fair), the respondents disagree that the Service delivery fund does allow to maintenance of roads (Mean 2.48 fair) also the respondents disagree that the Directors are knowledgeable of the Service delivery road maintenance (mean 3.14 satisfactory) move over the respondents disagree that the Costs for maintenance is planned (mean 2.42 fair), table 4.3 shows that the respondents disagree that they get funds from central government & it is enough (Mean 2.12 fair) table4.3 shows that the respondents disagree that the Service delivery probably were spent from other funds. (Mean 2.35 fair) with regard to receiving funds, table 4.3 shows that the respondents disagree that the receive funds to keep roads at existing (mean 1.86 fair) also the

respondents agree that the need an additional money each year to keep control the roads. (Mean 3.18 satisfactory) lastly the respondents disagree that the manpower inspect most and some roads are beyond repair (Mean 2.69 satisfactory).

The majority of the respondents respond that the Road maintenance material were enough to repair collapsed areas (Mean 1.91 fair) while the respondents disagree that the labor are skilled & have ability to solve road problems (mean 2.82 satisfactory). The table 4.3 shows that the majority of the respondents disagree that the current resources would cover the pothole and patches by mean score of (1.78 fair) while also table 4.3 shows that the respondents disagree the point is to stop the deterioration is short time( mean 1.78 fair) the respondents agree that We require for maintenance immediate attention (mean 2.94 satisfactory)  The table 4.3 shows that respondents agree that the maintenance treatment deactivate the roads temporarily (mean 2.63 satisfactory ) Table 4.3 shows the respondents disagree that the maintenance of roads is permanent (mean 1.85fair ) respondents agree the Pothole and patching caused accident and loss of the human and property (mean 3.13 satisfactory) however they disagree the Facilities for maintenance treatment is clear identified (mean 2.50 fair).

Table 4.3 shows that the majority of the respondents disagree that the Road maintenance based only to get more information by mean score of (1.81 fair) which indicated that the majority of the respondents disagree that the maintenance based only to get information. While the respondents agree that the road maintenance conduct a more prescribe treatments by mean score of (2.59 satisfactory) the table 4.3 also shows the respondents agree that the Maintenance is mandatory strategic for all road rehabilitation (mean 2.77 satisfactory). Table 4.3 shows that the respondents agree that the roads strategy is covering new high priority zones. (Mean 3.14 satisfactory) while the respondents disagree that the strategic operations require specialized equipment and skilled personnel. (Mean 1.96 fair) also the respondents disagree that the Directors ensure the daily possibility and safety of existing roads. (Mean 1.87 fair) lastly the respondents disagree that the road strategic forecasting is only one season in year (mean 2.19 fair).

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## 4.5 Relationship between fiscal decentralization and maintenance of roads

The three objective in this study was to determine if there is significant relationship between fiscal decentralization and maintenance of roads in Hargeisa Somaliland, for which it was hypothesized that the two variables are not significantly correlated. To test this null hypothesis, the researcher correlated all the mean perceptions computed in Table 4.2 and 4.3 above, using the Pearson's Linear Correlation Coefficient (PLCC, r). Results of this test are indicated in table 4.4;

Relationship between fiscal decentralization and maintenance of roads in Hargeisa Somaliland

(Sig. = 0.05)

Table 4.4

| Variable correlated | Computed r- value | P- value | Interpretation | Decision on $H_0$ |
|---|---|---|---|---|
| Fiscal Intergovernmental system and Road Maintenance Resources | .731** | .000 | Strong Significant relationship | Rejected |
| Fiscal Decisions and Maintenance Effectiveness | .510** | .000 | Strong Positive and significant | Rejected |
| Road Maintenance Resources and Maintenance Effectiveness | .657** | .000 | Strong Positive and significant | Rejected |

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

**Source: Primary Data 2014**

Table 4.4 presents correlation results between fiscal intergovernmental system and road maintenance resources. It indicates that the correlation between fiscal intergovernmental system and road maintenance resources is significant (r=0.731; sig. =0.000). This implies that the cause's fiscal decentralization highlighted a strong relationship to the road maintenance resources. This is an indicator that the better observing the causes and fiscal decentralization with road maintenance resources. Correlation analysis between fiscal decision making and road maintenance effectiveness yielded a rank of correlation value of (r=0.510; sig. =0.000) this depicts that there exists a strong relationship between fiscal decision making and maintenance effectiveness. Therefore at 0.05, null hypothesis is rejected and research hypothesis is accepted to the fact that fiscal decision making brings road maintenance.

A correlation analysis between road maintenance resource and maintenance effectiveness resulted in to a rank correlation value of(r=0.657; sig. = 0.000) showing strong correlation, relationship between two variables. This means that road maintenance resource is done, it will result in to better maintenance effectiveness. Therefore at 0.05, the null hypothesis is rejected to the fact that road maintenance resource and influences maintenance effectiveness.

Regression Analysis on the Relationship between fiscal decentralization and maintenance of roads in Hargeisa Somaliland, all the analysis made has revealed that all the elements of fiscal decentralization were correlated to maintenance of roads. However to establish the contribution of each a multivariate tool was used. These factors used as explanatory variables of maintenance of roads are; causes, fiscal decision making and road maintenance resources.

Table 4.5.

| Variable regressed | Adjusted $r^2$ | | F-value | Sig. | Interpretation | Decision on $H_0$ |
|---|---|---|---|---|---|---|
| Fiscal decentralization and Maintenance of Roads | .486 | | 49.61 | $0.00^a$ | Significant | Rejected |
| | Unstandardized Coefficients | | | | | |
| Model | Beta | Std. Error | Beta | T | Sig. | Interpretation | Decision on $H_0$ |
| 1 (Constant) | 28.719 | 3.384 | | 8.488 | .000 | | |
| Fiscal Intergovernmental System | 12.343 | 1.575 | .619 | 7.836 | .000 | Significant | Rejected |
| Fiscal Decision Making | 1.528 | .840 | .144 | 1.818 | .072 | significant | Rejected |

**Source: Primary Data 2014**

According to regression analysis results in table 4.5, it is clear that this model has moderate correlation as the $R^2$ is significant relationship ($R^2$ =486) the model is significant (F=49.61, p-value =0.000). It implies that 0.486% of the dependent variable is influence by independent variable. The researcher concludes that there is sufficient evidence at the 0.5 level of significant, that the fiscal decentralization affect the maintenance of roads in Hargeisa Somaliland.

# CHAPTER FIVE

## DISCUSSIONS, CONLUSIONS AND RECOMMENDATIONS

### 5.0 Introduction

This chapter presented the summary of the discussions, conclusions, recommendations following the study objectives and pertinent hypotheses and areas of future research.

### 5.1 Discussions

This study was set out to establish the relationship and difference between the fiscal decentralization and the level of the maintenance of roads in Hargeisa Somaliland. This chapter is focused on the discussion of the results of the study. Moreover, the conclusions and recommendations are drawn and given respectively, the study was specifically showed data on profile of the respondents, level of the fiscal decentralization, level of the maintenance of roads, significant difference in the level of fiscal decentralization and maintenance of roads in Hargeisa Somaliland and relationship between fiscal decentralization and maintenance of roads in Hargeisa Somaliland.

Results indicate in terms of gender, there were male (81.5%) This implies that the respondents are dominated by male or majority of the respondents were male. In the case of their education background, 33.3% of the respondents were in diploma level this implies that the majority of the respondents were in diploma level. In case of the experience 30.6% of the respondents were worked 3 to 4 years, this implies that the majority of the respondents were in worked 3 to 4 years, the researcher observed that although the experience was enough and the majority of the respondents had enough qualification since the majority of them were in diploma level.

### 5.2. Discussions of the fiscal decentralization

The majority of the respondents disagreed that the Fiscal intergovernmental system (mean 2.38 fair). While the majority of the respondents disagreed that the fiscal decision making (mean 2.44 fair). The grand mean indicated that the extent of the fiscal decentralization in Hargeisa Somaliland is fair (mean index 2.395 fair) this implies that the extent of fiscal decentralization is fair since the general mean shows disagreed.

## 5.3. Discussions of the maintenance of roads

The finding showed that the majority of the respondents disagreed that the road maintenance resources (financial resources, human resources and physical resources) (mean 2.394 fair). While the majority of the respondents disagreed that the Maintenance effectiveness (mean 2.33 fair). The grand mean indicated that the extent of the maintenance of roads in Hargeisa Somaliland is fair (mean 2.362 fair) this implies that the extent of maintenance of roads is fair since the general mean shows disagreed.

## 5.4. Discussions of the fiscal decentralization and maintenance of roads

The fifth objectives was to find out if there is significant relationship the fiscal decentralization and maintenance of roads in Hargeisa Somaliland. The findings shows a significant and positive relationship between the levels of significant the correlation results between fiscal decentralization and road maintenance funds. It indicates that the correlation between fiscal decentralization and road maintenance funds is significant (r=0.489; sig. =0.000). A correlation analysis between Fiscal decentralization and road maintenance resources resulted in to a rank correlation value of(r=0.703; sig. = 0.000) showing positive correlation relationship between two variables. This means that fiscal decentralization is done, it will result in to better road maintenance resources. Therefore at 0.05, the null hypothesis is rejected and research hypothesis is accepted to the fact that fiscal decentralization and influences road maintenance resources. Correlation analysis between fiscal decision making and road maintenance effectiveness yielded a rank of correlation value of (r=0.510; sig. =0.000) this depicts that there exists a positive relationship between fiscal decision making and maintenance resources. Therefore at 0.05, null hypothesis is rejected and research hypothesis is accepted to the fact that fiscal decision making brings road maintenance.

## 5.5. Conclusion

Fiscal decentralization involves the central government and local government to get sustainable services like maintenance of roads. It involves putting in place a fiscal resources and fiscal decision making in resource mobilization, resources allocation and fiscal capacity.

The level of the fiscal decentralization in Hargeisa Somaliland is fair this implies that the extent and the level of fiscal decentralization is fair since the general mean shows disagree. The level of the maintenance of roads in Hargeisa Somaliland is fair (mean 2.362 fair) this implies that the

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level of maintenance of roads is fair since the general mean shows disagree. the correlation results between fiscal decentralization and road maintenance funds. It indicates that the correlation between fiscal decentralization and road maintenance funds is significant. This implies that the cause's fiscal decentralization highlighted a positive relationship to the maintenance of roads. This means that if fiscal decentralization is done, it will result in to better road maintenance.

## 5.6. Recommendations

This section deals with recommendations arising from the pertinent discussion and conclusions of this study, following the study objectives and hypotheses:

Local governments need to have adequate and sustained sources of revenue, so that they can be responsive to the needs of their communities. The local and central government levels need to adopt fiscal decentralization, so that they can realize effective road maintenance.

As effective fiscal decentralization system is a key to successful governance. Central governments should establish and reform fiscal decentralization system in order to improve the service delivery and local government functions.

Local governments should also capitalize on the willingness of the local communities and systematically plan that are sustainable and beneficial to all.

Government revenue shares should create freedom. Government should create fiscal relations between central government and local government in order to improve institutional performance.

Local governments should also capitalize on the willingness of the local communities and systematically plan that are sustainable and beneficial to all. The local governments need to enhance maintenance of roads and service delivery capacity should therefore be sustained and strengthened.

Road improvements bring immediate and sometimes dramatic benefits to road users through improved access to hospitals, schools, and markets; improved comfort, speed, and safety; and lower vehicle operating costs.

## 5.7.    Areas of further research:

On the basis of the knowledge that I gained during this study, I would recommend the following topics for further studies which are deemed very important and may help the central government local government council to increase their level of understanding in good maintenance of roads.

1. Resource Allocation and sustainability services
2. Administrative capacity and Resource Mobilization
3. Subnational taxes and regular maintenance of roads.

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# APPENDIX I

## TRANSMITTAL LETTER FOR THE RESPONDENTS

_____

Dear Sir/ Madam,

Greetings!

I am a Master of Art in Public Administration and Management candidate of Kampala International University. Part of the requirements for the award is a dissertation. My study is entitled, **Fiscal Decentralization and maintenance of road in Hargeisa Somaliland.** Within this context, may I request you to participate in this study by answering the questionnaires. Kindly do not leave any option unanswered. Any data you will provide shall be for academic purposes only and no information of such kind shall be disclosed to others.

May I retrieve the questionnaire within two weeks (6)?

Thank you very much in advance.

Yours faithfully,

Mr. Gulleid Mohamed Ismail

# APPENDIX II

## INFORMED CONSENT


I am giving my consent to be part of the research study of Mr. Gulleid Mohamed Ismail that will focus on emotional intelligence and leadership styles.

I shall be assured of privacy, anonymity and confidentiality and that I will be given the option to refuse participation and right to withdraw my participation anytime.

I have been informed that the research is voluntary and that the results will be given to me if I ask for it.




Initials: _____


Date: _____

# FACE SHEET: DEMOGRAPHIC CHARACTERISTICS OF THE RESPONDENTS

**Gender (Please Tick):**

___ (1) Male

___ (2) Female

**Age (Please Tick):**

___ 20-29 Years

___ 30-39 Years

___ 40-49 Years

___ 50-59 Years

___ 60 Year s and above

**Qualifications Under Education Discipline (Please Specify):**

(1) Certificate_____

(2) Diploma _____

(3) Bachelors _____

(4) Masters _____

(5) Ph.D. _____

**Other qualifications** other than education discipline _____

**Number of Years Working Experience (Please Tick):**

_____ (1) One year and above

_____ (2) 1- 2yrs

_____ (3) 3-4yrs

_____ (4) 5-6yrs

_____ (5) 7 years and above

## QUESTIONNAIRE TO DETERMINE LEVEL OF FISCAL DECENTRLAIZATION

### (For Both Administrators and directors)

**Direction:** Please write your preferred option on the space provided before each item.

Kindly use the rating guide below:

| Response Mode | Rating | Description | Legend |
|---|---|---|---|
| Strongly Agree | (4) | You agree with no doubt at all. | SA |
| Agree | (3) | You agree with some doubt | A |
| Disagree | (2) | You disagree with some doubt | D |
| Strongly disagree | (1) | You disagree with no doubt at all | SD |

**Fiscal Intergovernmental systems**

_____1. Transfer funds to sub-national governments to a positive system.

_____2. Framework of revenues uses is regional and local governments.

_____3. The current revenue and expenditure is planned in the annual budget.

_____4. The state properties are transferred to newly after the end of period.

_____5. Revenue obtain from local taxes is a significant proportion.

_____6. Revenue shares are more freedom of allocation.

_____7. The local taxes are shared between levels of local government.

_____8. Tax shares directly support expenditure of the service delivery.

**Fiscal decision making and Capital finance**

_____9. Your budgets is based in area they are collected.

_____10. The availability of grants should be advertised.

_____11. Your target grants has been a planned.

_____12. Your loans taken to finance large capital investments

_____13. The appropriate source of capital finance is long term investments.

_____14. You have ability to repay capital clearly needs and careful.

## QUESTIONNAIRE TO DETERMINE THE LEVEL OF MAINTENANCE OF ROADS
### (For Both Administrators and directors)

**Direction:** On the space provided before each option, indicate your best choice by using the rating system below:

| Response Mode | Rating | Description |
|---|---|---|
| Strongly Agree | (4) | You agree with no doubt at all |
| Agree | (3) | You agree with some doubt |
| Disagree | (2) | You disagree with some doubt |
| Strongly disagree | (1) | You disagree with no doubt at all |

**Road maintenance resources**

**(Financial resources, human resources and physical resources)**

_____1. Road maintenance are financially supported regularly.

_____2. Service delivery for expansion and improvements are visible.

_____3. Service delivery fund does allow us to maintenance of roads

_____4. Directors are knowledgeable of the Service delivery road maintenance

_____5. Costs for maintenance is planned.

_____6. You get funds from central government & it is enough

_____7. The Service delivery probably we spent other funds.

_____8. We receive the funds to keep roads at existing.

_____9. You need an additional money each year to keep control the roads.

_____10. Your manpower inspect most and some roads are beyond repair.

_____11. Road maintenance material wide enough to treat collapse.

_____12. The labor are skilled & have ability to solve road problems.

_____13. The current resources would cover the pothole and patches.

_____14. The point is to stop the deterioration is short time.

_____15. We require for maintenance immediate attention.

_____16. The maintenance treatment deactivate the roads to a temporary.

_____17. Your maintenance of roads is permanent

_____18. Pothole and patching caused accident and loss of the human and property.

_____19. Facilities for maintenance treatment is clear identified

**Maintenance effectiveness**

_____20. Road maintenance based only to get more information.

_____21. The road maintenance conduct a more prescribe treatments.

_____22. Maintenance is mandatory strategic for all road rehabilitation.

_____23. The road strategy is cover new high priority zones.

_____24. Strategic operations require specialized equipment and skilled personnel.

_____25. Directors ensure the daily possibility and safety of existing roads.

_____26. Road strategic forecasting is only one season in year.

# APPENDIX III

## INTERVIEW GUIDE

1.  How the central government transfer funds to local governments with the administrative authority and fiscal revenue to perform those functions?

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2.  How the ability to make decisions and delivery of local services such as local roads?

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3.  How do you carry out in the best possible way at the moment, giving to the road manager all information he needs?

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4.  How do regular activities include roadside verge cleaning of silted ditches and culverts, patching, and pothole repair do?

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