

## Administrative Decentralization and Rural Roads Maintenance in Western Uganda

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### Abstract

### Original Research Article

The systematic study evaluated the relationship between Administrative Decentralisation and Rural Roads Maintenance in Kanungu District in western Uganda. The research study adopted an exploratory and descriptive research design with quantitative and qualitative paradigms. A sample of 104 respondents were selected from 113 people using Slovic's formula. Data was gathered using questionnaires and interview schedules and analyzed using frequencies, percentages, Pearson linear correlation coefficient (PLCC) for quantitative data and content analysis was used for summarising qualitative information. The study findings established a significant relationship between Administrative Decentralization and Rural Roads Maintenance in Kanungu District in Western Uganda. The study concluded that Administrative decentralisation is important for rural feeder roads maintenance because it deals with issues to do with provision of quality services to the citizenry. If the roads are well maintained, they can be an impetus to socio-economic development of the country at large. The population can use the roads to transact a number of economic activities for development to blossom. From the study findings, the researcher recommended that the political leadership of Kanungu district local government in Uganda should always recruit competent and knowledgeable persons to oversee the maintenance of rural roads for proper development of the country. This can be done through advertising both in local and national newspapers in order to attract a pool of applicants from which district service commission can choose the right persons and fit square pegs in square holes. The government of Uganda should augment on the budget meant to maintain the rural roads so that local governments can have sufficient money to implement activities related to roads maintenance and engender an environment of growth and progress in the country.

**Keywords:** Administrative Decentralization, Roads Maintenance, Service delivery, Uganda.

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## INTRODUCTION

Globally, rural road maintenance evolved with the development of human culture. Maintaining distance walking tracks developed as trade routes in Paleolithic times. For most of human history the only form of rural road maintenance apart from using rudimentary tools such as hoes and pangas cover pot holes and draining trenches were using domesticated animals such as horses and donkeys or maintenance of paths or walk ways in small measures (Santhy, 2022). The first earth tracks were a result of humans carrying goods (porterage) that often followed trails. Tracks emerged naturally at points of high traffic density. Domesticated animals such as horses, oxen and donkeys later also became an element in track-creation and maintenance. With the growth of trade, often there was flattening or widening of tracks to accommodate animal traffic (Pershin & Taranukha, 2020). Later, the travois a frame used to drag loads was developed. Animal-drawn wheeled vehicles were probably developed in the

Ancient Near East in the 4<sup>th</sup> or 5<sup>th</sup> millennium BC and spread to Europe and India in the 4<sup>th</sup> millennium BC and China in about 1200 BC. The Romans had a significant need for good and well maintained roads to extend and maintain their empire and maintained Roman Roads (Zolfaghari & Javid, 2019).

In the Roman Empire cities, roads were decorated with large cobbles that were more durable for their needs at that time. There were also milestones showing maintenance among the cities on the Roman roads. The Roman Empire would check their colony taking part away from the Centre with the highly maintained road network (Abrahamse, 2017). Following the establishment of Constantinople in 330s AD, the roads connecting this region to the East were maintained (Yildirim & Oban, 2021). World Bank (2022) reported that in the medieval world, many roads were maintained throughout the Arabic Empire. The most sophisticated roads were those of Baghdad, Iraq, which were paved with tar in the 8<sup>th</sup> century. Tar was

derived from petroleum, assessed from oil fields in the region, through the chemical process of destructive distillation.

In England, during the Industrial Revolution period, John Loudon Macadam (1756–1836) designed the first modern highways, using inexpensive paving material of soil and stone aggregate (macadam), and he embanked his roads with maintenance system and few feet higher than the surrounding terrain to cause water to drain away from the surface. At the same time, Thomas Telford made substantial advances in the maintenance of new roads and bridges, particularly, the London to Holy head road (Erskine, 2020). With the development of motor transport there was an increased need for hard-topped and maintenance roads to reduce wash ways, bogging and dust on both urban and rural roads, originally using cobblestones and wooden paving in major western cities and in the early 20th century tar-bound macadam (tarmac) and concrete paving were extended into the countryside (Pershin&Taranukha, 2020). Santhy (2022) contends that the modern history of rural road maintenance also involves the development of new vehicles such as new models of horse-drawn vehicles, bicycles, motor cars, motor trucks and electric vehicles. Abrams (2022) indicates that modern road-construction techniques can be traced to a process developed by Scottish engineer John Mc Adam in the early 19th century. Mc Adam topped multi-layer roadbeds with a soil and crushed stone aggregate that was then packed down with heavy rollers to lock it altogether. Contemporary asphalt well maintained roads capable of supporting the vehicles that emerged in the 20<sup>th</sup> century built upon McAdams' methods by adding tar as a binder.

In Africa, the rationale for evolution of rural road maintenance can be aptly captured in the statement made by the propagator of indirect rule in Africa, Sir Fredrick Lugard that “the material development of Africa is summed up in two words – transportation and maintenance.” Transportation was the lifeline of development in colonial Africa. The maintenance of rural roads took place within the wider context of colonial economic policy. The colonial economic policy was based on the belief that a colonial territory existed primarily for the benefit of the metropolitan country. The economic relationship between the metropolitan country and her colonies was expected to be governed by the principle of comparative advantage (Olubomehin, 2019). Hrituleac (2021) expound that European investment aimed at resource extraction. Therefore, the maintaining of roads was for the purpose of carrying goods to Europe. Between 1890 and 1939, over 400,000 miles of roads were maintained. Plantations, light and service industries served mines, towns, and farms. Cars and trucks were brought to Africa to make some rural areas more accessible for commerce. Indeed, because African states have inadequate rural road maintenance mechanisms, they

suffer the consequences of the high transaction costs of doing business, as well as the huge inefficiencies severely curtailing economic development. As a result, intra-Africa trade still remains a challenge estimated at only 15% of all trade on the continent (Modise, 2018).

In Uganda, before rural road maintenance slave caravan routes connected Uganda to the coast. The most important was the caravan route from Buganda through Nanyamwezi land in Tanzania to the coast (Pallaver, 2020). Uganda came under British protectorate from 1894 to 1962. This protectorate status affected local economic systems because the British were mainly financially concerned and this shaped the road maintenance evolution and development policy (Kagina, 2022). Hab (2016) indicates that Sir Henry HeskethJoudou Bell who became the British Commissioner and Governor of the Uganda Protectorate (1905-1909) enhanced the programme of colonial road maintenance development. In order to facilitate agriculture he greatly improved rural roads by constructing and maintaining of feeder roads to link productive areas to railway lines. Bell encouraged the importation of bicycles and vehicles to ease transportation of goods and humans.

## METHODS AND MATERIALS

### Data Capturing

Facts used for the research venture were obtained using both primary and secondary foundations of data. Primary data was arrived at by usage of questionnaires and interviews to vibrant persons related to the study. Secondary data was acquired by the use of documentary assessments. The study employed an exploratory descriptive research design including qualitative and quantitative methods.

Amin (2005) specified that descriptive research design is generally utilized to designate a phenomenon and its data characteristics. The researcher picked a total of 104 respondents (sample size) using the Sloven's formula to partake in the research study.

### Sampling Methods

The social scientist engaged stratified random sampling and purposive sampling techniques in the study. The study population used the target population including categories like District Technical staff, Local council leaders, road users, Ministry of local government officials and Officials from Uganda National Roads Authority.

### Structured questionnaire and interviews

The questionnaire is a research instrument consisting of inter-related questions organized by the researcher about the research predicament under study based on the intentions of the research study. Items were set and written for the contributors to answer with options as reflected on the likert scale type queries.

This method was liked because it covers a wide physical space in data gathering; it collects a lot of information within a short epoch of time, and offers greater reassurance regarding secrecy.

Nevertheless, the questionnaire involved some challenges of attrition. There were few copies that were not returned, though this was resolved by distributing a lot of duplicates than the required number of the sample size for the study.

Interview agenda is a tool of data assemblage which has something to do with face to face communication with respondents. The academic posed questions which the respondents answered orally. It was significant in getting the story behind the participants' involvement even through facial expressions. This tool was preferred because the information and data attained was vital to the study. The aim of a qualitative interview programme was to understand the respondents subjective opinion of their universe; unfolding the sense of their world, revealing their lived lifestyles prior to scientific clarifications (Kvale & Brinkmann, 2009).

#### Validity and reliability of research instruments

Validity of the well-thought-out questionnaire was guaranteed by using content validity Index. Arising from the testing of the validity of the tools, the researcher got content validity index (CVI) of 0.78 which was well directly above 0.75 indicating that the instrument was valid to bring together data for the research study (Amin ,2005). Conversely, the validity

of the interviews was obtained by talking to key members to prove the answered matters (Gibbs, 2007).

Reliability of the Arranged Questionnaire was calculated using Cronbach's alpha coefficient formula while observing the variables that had an alpha coefficient of figure greater than 0.70. Since the reliability calculation got by the researcher produced 0.78 alpha value, it inferred that the research instrument was reliable to produce data necessary for the scientific study. Though, the reliability of the interviews was reached at by resorting on peer review tactics (Gibbs, 2007).

#### Data Analysis

Investigation Statistical tools which were engaged to scrutinize data for this research study included; descriptive statistics such as tables, frequencies, percentages, and inferential analyses like Pearson Linear Correlation Coefficient for evaluating quantitative data. In general, Qualitative data were analyzed by scientifically organizing data into sensible themes or sub themes for easy Clarification in a storyline method (Gibbs, 2007).

## RESULTS

#### Background Characteristics of the Respondents

This section presents survey data on background information of the respondents. Data on background information of the respondents is as presented in Table 1.

**Table 1: Respondents' Background Characteristics**

Item	Categories	Frequency	Percent
Gender of the Respondents	Male	74	71.2
	Female	30	28.8
	<b>Total</b>	104	100.0
Age groups	Below 30 Years	18	17.3
	30-40 Years	54	51.9
	41-50 Years	27	26.0
	Above 50 Years	5	4.8
	<b>Total</b>	104	100.0
Education levels	Diploma	31	29.8
	Bachelor's Degree	50	48.1
	Post Graduate Qualifications	23	22.1
	<b>Total</b>	104	100.0
Working experience	Less than 5 years	19	18.3
	6 -10 years	34	32.7
	10 and above years	51	49.0
	<b>Total</b>	104	100.0
Department	Administrative staff	14	13.5
	Finance	11	10.6
	Works	14	13.5
	Planning Unit	4	3.8
	Internal Audit	3	2.9
	Sub Counties staff	58	55.8
	<b>Total</b>	104	100.0

Source: Primary Data, 2022

The results in Table 1 on gender of the respondents show that the modal percentage (71.2%) were males and the females were 28.8%. This implied that the majority respondents in the local government were males. Although the males were the majority, the responses for both genders were captured thus the views were representative of both gender groups. The results on age show that modal percentage (51.9%) was of those in the age group of 30 but below 40 years followed by 26.0% in the age group of 40 but below 50 years, followed by 17.3% who were below 30 years and the remaining 4.8% were those above 50 years. The results show that the respondents that participated in the study were drawn from different categories of age groups. Therefore, this provided chance of balanced opinions about the study problem. Data on education levels of the respondents revealed that the modal percentage (48.1%) of the respondents was of those who had bachelors' degrees followed by 29.8% with diplomas. Those with postgraduate qualifications were 22.1%. The results suggest that all the respondents were qualified professionals with proficiency in English. Therefore, they could fill the self-administered questionnaire with accuracy hence their responses to the study items were dependable.

The results on working experience show that the modal percentage (49.0%) was those who had worked for the local government for 10 and above years. These were followed by 32.7% who had been

working with the local government for 6 -10 years and the remaining 18.3 had been working with the local government for less than 5 years. The results indicate that most of the respondents had been in local government for a long time, that is 6 and above years. The results were therefore important for the study because having people who had a long time of service meant that they could easily give appropriate information about the study problem due to their experience with the operations of the district. With respect to the departments of the respondents, the results showed that the modal percentage (55.8%) were staff from sub counties, 13.5% administrative staff, another 13.5% from the works department, 10.6% from the finance department, 3.8% from the planning unit and 2.9% from the internal audit department. The results suggest that staff from different departments of Kanungu district were involved in the study. Therefore, the respondents were hoped to provide reliable information about the study problem because the responses reflected views of diverse staff.

#### **Administrative Decentralization and Rural Roads Maintenance in Kanungu district**

This item of the study presents results of the objective of the study that sought to assess the contribution of administrative decentralization on rural roads maintenance in Kanungu District. The results on items were as presented in Table 2 below.

**Table 2: Frequencies, Percentages and Means on Items of Contribution of Administrative Decentralization on Rural Roads Maintenance**

<b>Contribution of Administrative Decentralization on rural road maintenance.</b>	<b>F/%</b>	<b>SD</b>	<b>D</b>	<b>U</b>	<b>A</b>	<b>SA</b>	<b>Mean</b>
Leads to efficient and effective transport in rural areas	F	13	26	32	31	2	2.84
	%	12.5	25.0	30.8	29.8	1.9	
Improves rural feeder roads management	F	2	44	14	42	2	2.98
	%	1.9	42.3	13.5	40.4	1.9	
Administrative decentralization increases accessibility to planning	F	8	42	11	43	-	2.86
	%	7.7	40.4	10.6	41.3	-	
Increases growth of public demand for public services and physical infrastructure	F	6	30	21	40	7	3.12
	%	5.8	28.8	20.2	38.5	6.7	
Promotes growth of public demand for public services and physical infrastructure	F	6	38	20	38	2	2.92
	%	5.8	36.5	19.2	36.5	1.9	

Primary data, 2022

The results in Table 2 on whether Administrative Decentralization on rural road maintenance leads to efficient and effective transport in rural areas, cumulatively the larger percentage (37.5%) of the respondents disagreed, 30.8% were undecided while 31.7% agreed. The mean = 2.84 was just below 3 which on the five-point Likert scale used to measure the items corresponded to undecided. The results being just below code 3 that is undecided which is the average this meant that the respondents indicated to a lesser extent, decentralization on rural road maintenance leads to efficient and effective transport in rural areas. With

respect to whether Administrative Decentralization on rural road maintenance improves rural feeder roads management, cumulatively the larger percentage (44.2%) of the respondents disagreed, 3.5% were undecided while 42.3% agreed. The mean = 2.98 was just below 3 which corresponded with undecided. The results being just below 3 meant that to a lesser extent, Administrative Decentralization on rural road maintenance improves rural feeder roads management.

Concerning whether Administrative decentralization increases accessibility to planning,

cumulatively the larger percentage (48.1%) of the respondents disagreed, 10.6% were undecided while 41.3% agreed. The mean = 2.86 was just below 3 which corresponded with undecided. The results being just below 3 meant that to a lesser extent, Administrative decentralization increases accessibility to planning. As regards whether, Administrative decentralization Increases growth of public demand for public services and physical infrastructure, cumulatively the larger percentage (45.2%) agreed while 20.2% were undecided and 34.6% disagreed. The mean = 3.12 was close 3 which corresponded with undecided. Undecided being the average, the results suggested that fairly, Administrative decentralization increases accessibility to planning.

With respect to whether Administrative decentralization Promotes growth of public demand for public services and physical infrastructure, cumulatively the larger percentage (42.3%) of the respondents disagreed, 19.2% were undecided while 38.4% agreed. The mean = 2.92 was just below 3 which corresponded with undecided. The results being just below 3 meant that to a lesser extent, Administrative decentralization Promotes growth of public demand for public services and physical infrastructure. The general mean = 2.94 for all the five items measuring the Contribution of Administrative Decentralization on

Ownership of Rural Roads Maintenance was just below 3 which corresponded with undecided. This meant that the respondents indicated that to a lesser extent, Contribution of Administrative Decentralization on Ownership of Rural Roads Maintenance.

In addition to the quantitative data above, the respondents through interviews gave their views in relation Contribution of Administrative Decentralization on Ownership of Rural Roads Maintenance. One respondent stated, "The extent of Contribution of Administrative Decentralization on Ownership of Rural Roads Maintenance in the district is always timely and their concerns are the basis for road infrastructure projects implementation." Another respondent posited, "Contribution of Administrative Decentralization on Ownership of Rural Roads Maintenance is adequately made by different stakeholders. However, much of time feedback is not timely." Overall, as the above findings suggest, Contribution of Administrative Decentralization on Ownership of Rural Roads Maintenance was good. However, this is inconsistent with the descriptive statistics which indicated that it was fair. This means that whereas Contribution of Administrative Decentralization on Ownership of Rural Roads Maintenance was good, still a lot needed to be done to increase it.

#### The relationship between Administrative Decentralisation and Rural road maintenance in Kanungu district

		Administrative Decentralization	Rural roads maintenance
Administrative Decentralization	Pearson Correlation	1	.541**
	Sig. (2-tailed)		.000
	N	104	104
Rural roads maintenance	Pearson Correlation	.541**	1
	Sig. (2-tailed)	.000	
	N	104	104

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

Source: Primary data (2022)

The study established that administrative decentralization significantly ( $p=0.000<0.05$ ) influenced the rural roads maintenance in Kananga in Uganda. Also, there was a moderate positive relationship ( $r=0.541$ ) between administrative decentralization and rural roads maintenance in Kanungu district. In this context, administrative decentralization improved the the rural roads maintenance in Kanungu district; because it improved supervision of rural roads under maintenance in Kanungu district. This implied that the set null hypothesis was rejected saying that administrative decentralization has a strong bearing on rural roads maintenance in Uganda.

The above discovery was sustained by the chairman Local Council Five (LCV) at Kanungu district level who was interviewed in this year (2022) at Kanungu district headquarters and in general alleged that:

*"Administrative decentralization has helped local government to closely supervise local government technical staff in the process of discharging their duties. One can put a close look at accountability of road funds and makes sure that there is value for money."*

In this context, it suggested that administrative decentralization has ensured that the local government officials are efficient and effective in the process of performing their duties and responsibilities. There is a

strong monitoring on wastage of resources and on achievement of objectives of government.

## DISCUSSION

The findings indicated that the connection between Administrative Decentralization and Rural Roads maintenance in Kanungu district in Uganda was statistically significant. This implied that the Administrative Decentralization really affects Rural Roads maintenance in Kanungu district in Uganda. This finding was in agreement with the study conducted by Hrituleac (2021) on Rural roads and colonialism in Africa, who found out that the colonial masters made and maintained rural roads in order to facilitate the transportation of raw materials to the coast and finally to Europe for their industries. Nonetheless, this finding was not in consonance with a popular investigation study conducted by Abrams (2022) on Panoramic development in East Africa who found out that African leaders do make, repair and maintain rural roads in most cases due to personal reasons especially during political campaigns. In most cases, African political leaders do maintain rural roads when elections are about to take place. The main intention being to garner a lot of votes in elections, but not having a genuine spirit of service delivery to the citizenry.

## CONCLUSION

Administrative decentralisation is important for rural feeder roads maintenance because it deals with issues to do with provision of quality services to the citizenry. If the roads are well maintained, they can be an impetus to socio-economic development of the country at large. The population can use the roads to transact a number of economic activities for development to blossom.

### Study Implications

The political leadership of Kanungu district local government in Uganda should always recruit competent and knowledgeable persons to oversee the maintenance of rural roads for proper development of the country. This can be done through advertising both in local and national newspapers in order to attract a pool of applicants from which district service commissions can choose the right persons and fit square pegs in square holes. The government of Uganda should augment on the budget meant to maintain the rural roads so that local governments can have sufficient money to implement activities related to road maintenance and engender an environment of growth and progress in the country.

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