CONTRIBUTION OF RAILWAY TRANSPORT IN BOOSTING RURAL ECONOMIC DEVELOPMENT IN TANZANIA: A CASE OF TANZANIA RAILWAY LIMITED

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A DISSERTATION SUBMITTED IN PARTIAL FULFULMENT OF REQUIREMENT FOR THE DEGREE OF MASTER OF BUSINESS ADMINISTRATION IN TRANSPORT AND LOGISTICS OF THE OPEN UNIVERSITY OF TANZANIA

2018

CERTIFICATION

We, the undersigned, certify that we have read and hereby recommend for acceptance by the Open University of Tanzaniaa dissertation entitled, **Contribution of Railway Transport in boosting Rural economic development in Tanzania A Case of Tanzania Railway Limited** in partial fulfillment of the requirements for award of the degree of Master in Business Administration (Corporate Management) of The Open University of Tanzania The Faculty of Business Management.

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Dr. A. Abayo

(Supervisor)

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Date

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DECLARATION

I, **Mwatima Suleiman Said**, I declare that this dissertation is my original work and that it has not been presented and will not be presented to any other University for a similar or any other degree award.

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Signature

…….

Date

DEDICATION

This work is dedicated to my beloved father and mother for their basic education foundation they laid down for me. I could not reach this stage without their efforts.

ACKNOWLEDGEMENT

I would like first to thank God the Almighty for giving me strength and capacity to complete this work, He therefore deserves all the glory and honor. I am particularly indebted to my research supervisor Dr. Abayo whose constructive criticisms of the early draft of this study and his unfailing support during the writing of this work has been of much help to me.

I would like to acknowledge the help and encouragement of my beloved family who tirelessly provided me with moral and material support which continuously encouraged and energized me to complete my studies. Special thanks also should go to my beloved mother, my husband, sisters, nephews, nieces, in laws and other relatives for their support and prayers during my studies. They encouraged me to complete my studies despite of their family responsibilities.

Then, I would like to pass my special thanks all lecturers and my fellow MBA students for their advice and support which proved to be vital in the accomplishment of this study. Many have obviously helped me to produce this dissertation but like every writer, the final responsibility for what has been produced rests with me.

Finally, I would like to extend my thanks to my respondents who responded well to my study for the information and assistance they rendered for my study starting with management staffs from TRLand few local government authorities. Lastly, I would like to express my thanks and appreciations to those who helped me in one way or another in accomplishment of my study.

ABSTRACT

This study is about Contribution of Railway Transport in Boosting Rural Economic Development in Tanzania (A Case of Tanzania Railway Limited). It further assesses the contribution of railway transport in boosting rural economic development, also it assesses the extent to which rural communities benefit from the use of railway transport and finally determine the challenges facing railway transport in rural Tanzania. The targeted respondents of this study included rural population resides in regions where railways line cross and institutions that conduct various research like REPOA, different NGO's and Government agencies in supporting social development like TASAF, NSGRP. The study has used mixed research methodologies. It includes the case study and documentation review. The sample size is 50 respondents'oth Primary and Secondary data was collected using questionnaires, interview and documentation review. The study found that, there is highly relationship between railway transport and rural economic development as it has been analyzed in cross tabulation that all result from the development of railway transportation such as increase of income generation, urbanization, employment opportunity had agreed to have directly relationship with rural development. Despite the slowdown of the sector, it has greater contribution on the rural development. The study has recommended that the railway transport industry in Tanzania should respond on growing demand for the mobility of the economy. However, development of rural areas is much depending on the connectivity with urban areas for that case railway line must be improved and construction of new lines should be established.

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GNP	Growth National Product
GDP	Growth Domestic Product
RAHCO	Railways Assets Holding Company
TAZARA	Tanzania Zambia Railways
TRL	Tanzania Railways Cooperation
TTA	Community Transportation Association of America
UK	United Kingdom
REPOA	Research on Poverty Alleviation
TASAF	Tanzania Social Action Fund
NSGRP	Tanzania's National Strategy for Growth and Reduction of Poverty

CHAPTER ONE

1.0 INTRODUCTION AND BACKGROUND OF THE STUDY

1.1 Introduction

This chapter introduces the study by giving the background information and statement of the problem. Further, specific research objectives and questions, significance of the study, limitation and delimitation are spelt out to guide the study.

1.2 Background Information

Globally, extreme poverty continues to be a rural phenomenon despite of increasing urbanization. The world's population to the tune of 1.2 billion extremely poor people,75 percent live in rural areas and most of them depend on agriculture, forestry, fisheries and related activities for survival (Kelly, 1997) The promotion of rural development and economy in a sustainable way has the potential of increasing employment opportunities in rural areas, reducing regional income disparities, stemming pre-mature rural-urban migration, and ultimately reducing poverty at its very source.

Tanzania has two railway systems: A northern/central line extends towards Kigoma and Mwanza on Lake Victoria and is run by Tanzania Railways Limited (TRL) with assets in the ownership of the Railways Assets Holding Company (RAHCO), and a southern route extends from Dar es Salaam to Zambia, operated by the Tanzania Zambia Railway Authority (TAZARA). The northern and central railway was built at the turn of the century, and is of 1,000 mm gauge, and is of roughly 2,700 km in length. The railway suffers from repeated washouts and, just like TAZARA's rail

line, is short of serviceable locomotives. TRL provides both passenger and freight services. The thickness of the lines has been adjusted to the maximum speed allowable at the given track segment, which can be seen as an indicator of the condition of the track. Currently, there are no trains running along the line northwards close to the coast to Arusha. TAZARA is about 1,850 km in length and was built in the early 1970's, using 1,067 mm gauge, running from Dar es Salaam to Kapiri Mposhi in Zambia, where it connects to Zambia Railways.

Tanzania Railways Corporation (TRC)Nis a state owned enterprise that runs one of Tanzanians two main railway networks. TRC was formed to take over its operation in Tanzania as for the case when the East Africa railways and harbors corporation was dissolved in 1977 and its assets divided between Kenya, Tanzania and Uganda. There are both freight and passenger services. However, the railway is in significant financial difficulties, and scheduling integrity is compromised by the lack of operable locomotives.

The demand for rail in general declines as a road network expands, as it has been the case in Tanzania. The advantage of rail over roads lies in fuel efficiency and the ability to carry large tonnages of bulk freight far distances. In addition, overloaded trucks because accelerated road making rail seem like the logical alternative from a policy point of view.Railway transport constraints on rural livelihoods and culmination of inadequate infrastructure in general impede the ability of the rural poor to generate a sustainable livelihood.

In addition, it is having an adverse impact on access to the already costly rural social services and agricultural market. A poor railway transport network is shown to compound the subsistence burden in Sub-Saharan Africa. Rural farmers are unable to transport their agricultural outputs for sale to a long distance market without a considerable railway. Subsequently, it becomes necessary for farmers to sell or barter produce at a much reduced price to traders, or pay excessive transport fees in order to generate any surplus capital with which to pay for health care, and education (Atack, 2009).

In prominent models of international and interregional trade, reductions in trade costs will increase the level of real income in trading regions. Railway system plays a significant role in the development and overall growth of any economy including in rural areas. It is often regarded as the wheels of economic activity because of the crucial role it plays in providing the bulwark upon which production and distribution stand. It opens up regions, hinterlands and rural areas by facilitating agricultural development as well as the growth of cottage and large scale industries. It also attracts residential, commercial, educational and recreational settlements and developments around its corridor. Due to the role it performs in growth and development process, rail transport is seen as the mainframe around which an integrated national transport system is built. Its capacity, which is further accentuated by its safety and security factors, coupled with its ability to travel longer distance with ease and lower unit costs, places it in good stead to serve as the hub of a transport system of a nation as its emphases both rural and urban development (Nwanze, 2002). Therefore, this study intends to evaluate the impacts of railway

transport on rural economic development in a case study of Tanzania Railway Limited.

1.3 Problem Statement

The less attention paid to the contribution of railway transport in rural areas discourage the rural economic development. The government has come up with numbers of policies like kilimo kwanza, NSGRP and many others, together with provision of capital and agriculture equipment like pest sides and fertilizers but all that efforts does not cure the problem of poverty in rural areas. The development of remote areas seems to grow gradually due to poor and expensive infrastructure and hence people fail to exchange what they produce and what they do not as the result it causes rural economic development stagnation. In an attempt to pursue the agricultural sector as the main engine of growth, since 1991 the structural adjustment program has succeeded only in marginalising non-commercial agricultural producers and also affect other social services like healthy and education (World bank, 1994).This process of liberalisation has affected subsistence and emergence of farmers in all aspect. This has effect on infrastructure and market in rural Tanzania where 75% of the population resides and 90% of the rural population depends on agriculture (Burns, 1992).

Since independence railway transport has played a big role in opening up the rural and interior of the Tanzania and increases the production capacity in agricultural activities and enhanced the development of social services such as health and education by facilitating the transportation activities. Several rural to urban centers

have been opened up due to the presence of the railways activities. In recent years, railways transportation has faced challenges as there are slowdowns of its activities like having few trips compared to some years ago and rail share of total freight movement has been declining, while road and highway's share has been increasing rapidly. This brings challenges to the economy and development of those areas along the railway line as used to be. The rise and fall of the railways transportation in Tanzania has slowed down the country development especially in rural areas. This study aspires to examine the impact of railway transport on rural development with a case study of Tanzania Railway Limited.

1.4 Objective of the Study

1.4.1 Main Objective

The main purpose of this study was to examine the contribution of railway transporting boosting and encouraging rural economic development using Tanzania Railway Limited as a case study.

1.4.2 Specific Objectives

Specifically, the objectives for this study were:

i.) To assess the contribution of railway transport in boosting and encouraging rural economic development.

ii.) To assess the extent to which rural communities benefit from the use of railway transport.

iii.) To determine the challenges facing rail way transport in rural Tanzania.

1.5 Research questions

The following research questions guided this study;

i.) What is the contribution of railways transport in boasting and encouraging rural economic development?

ii.) To what extent is do rural communities use railways transport system?

iii.) To what extent is the railway transport system associated with rural economic development in Tanzania?

iv.) What are the challenges facing efficiency of railway transport in rural Tanzania?

1.6 Significance of Study

1.6.1 Practical Value

It is worthwhile to conduct this study simply because its result could be used to improve the railway sector and enhance the rural economy. It will also help government together with other measures it takes to improve railways transport and to construct new railways lines especially in rural areas as a way to improve economic development because it is cheap, safe and affordable transport in Tanzania.

1.6.2 Academic/ Researchers

In examining the contribution of railways transport in promoting rural development will enrich the research center of the Open University of Tanzania and Tanzania in general. It will provide standard of the research that could receive wider recognition, through the findings and analysis, it will provide new knowledge and insights

regarding the importance of railway transport to the national development plan especial in rural areas.

1.6.3 Policy Development

Policy development, as the study will help and assist the government and their partners' to determine the importance of having different policies in different development sectors that encourage the use of railway transport for both passengers and cargo.

1.7 Scope of the Study

The goal of this study is to examine the contribution of railway transport in busting and encouraging rural economic development with the Tanzania Railways Limited as a case study. It will also cover assessment of economic development in regions where railways transport pass-through and regions with no railways transport in Tanzania.

1.8 Organization of the Research

This study divided into five chapters. Chapter one is an introduction which presents background information, research problem, research objectives, research questions, significance of the study, scope, Chapter two discuss both theoretical and empirical literature on the contribution of the railway transport in busting and encouraging rural economic development. Chapter three covers extensively the methodology of the study. Chapter four presents the findings of the study. Lastly, chapter five gave study summaries and discusses the findings of the study and draws conclusions and proposes areas for further studies.

CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 Introduction

This chapter reviews the literature on the contribution of railway transport in boasting and encouraging rural economic development. It consists of the theoretical bases of the research, empirical review of past studies and the conceptual framework.

2.2 Definition of the Key terms

2.2.1 Rural areas

Rural areas are large and isolated areas of open country with low population density (Moral1993).

2.2.2 Rural Economic Development

Rural development is the process of improving the quality of life and economic wellbeing of people living in rural areas (Rural economic development entails creating new markets for agricultural base, where possible, and diversifying the economy so it can withstand (https:/en.m. Wikipedia.org>wiki>Rural.).

2.3 Railway Sector and Economy Overview

2.3.1 Theoretical Review

The benefits of rail transport are often contested and difficult recognized. Proponents and dissidents regularly dispute the tangible and intangible impact of rail transport. When posing the question of whether or not rail transport in a rural environment is

cost effective and beneficial to economic development, the short answer is yes. However, closer inspection reveals many pitfalls and nuances related to rail transport that can make or break an economic development agenda. The following shall illustrate how rail can function as an economic stimulant, what policies compliment rail transport, and what the experience has been obtained for rural areas that have attempted to foster/ boast economic development with a rail network in rural areas.

The theory that drives the use of transit as an economic development tool lies in transit's ability to provide higher densities and to create activity centers. Essentially, transit lines provide an alternative to the automobile, allowing more people in specified areas without increasing demand for roadways and parking. This allows more activity to occur in close proximity to a transit node such as a rail or subway station. Furthermore, an effective transit system not only allows for more housing, business, and recreation activity to occur at such locations, but it also encourages such dense development by providing a base of commuters and a common destination (Esfahani2003).

Essentially, a transit center provides a scarce source of land that accommodates dense, mixed-use development. As such, the provision of a scarce land commodity often leads to further development, which leads to densification that provides a vibrant economic and activity center. This, in turn, leads to even more market demand for such a location, and the cycle continues. This theory of development can often be played out in new and redeveloping rural areas if the actors in the development scheme successfully plan for such development(Concerning the tangible effects of a transit network, experience indicates that transit lines and nodes

create jobs, increase property values, and efficiently link labor and business. (Esfahani 2003).

It is also felt that an efficient transit network provides an additional economic boost to impoverished communities by connecting immobile populations (those that do not have access to an auto) to job and activity centers.

Furthermore, it is contended that such nodes add a difficult-to-measure, yet greatly important vibrancy to the rural fabric. Even if a transit network is not cost-effective when examined with a conventional analysis and current market conditions, substantial investment in a transit grid might pay off in the long run in ways not easily measurable now (Herranz-Loncan, 2011).As observed in South Africa, it is often felt that increasing activities rural centers may create a highly desirable urban culture that contributes to the economic vitality of a center.

2.4 Empirical Review

In the literature on economic growth the effect of railway transport and other public infrastructure is typically incorporated as an additional input in the production function which raises productivity or reduces costs of production (Futagami,1993). This result is applied for both rural and urban areas. Without congestion an additional user of infrastructure does not reduce the benefit to other users from that infrastructure, so there is an extra return from that infrastructure which is referred to as a positive externality.

The relationship between infrastructure investment including railway and growth has been shown to be non-linear, i.e. it is not constant as further infrastructure is put in place, and is dependent on the stock of existing infrastructure (Bougheas et al, 2000). Thus, where the lack of infrastructure is not a constraint, additional investment will have a low return.

Also, even where the infrastructure is a constraint, the benefits of investment have to be compared to the costs. In this respect, a particular issue for remote regions is the relatively low demand implying lower aggregate benefits.

Another relevant finding (Bougheas, 2000) is that infrastructure including railway has the highest return when accompanied by low taxes, since taxes reduce the funds available for private investment. An analysis using a regional computable equilibrium model for Finland supports this finding in that it finds growth impact ofrailways projects provided they are financed by central government and not local resources, which is implicitly the case in Ireland. More taxes would lead to increase in the cost of investment especially for private investor as a result lessen the burden on peripheral areas hence reduce national efficiency and it will not be affordable means for local community hence less development in the rural areas. (Morgenroth, 2010).

Transport infrastructure including railways can also have significant trade enhancing effects as this can reduce transport costs as was shown in Bougheas, (1999). Kelly (1997) developed a growth model, of which the division of labour (specialisation)

was limited by the size of the market i.e. with a larger market firms and individuals could specialize in few processes and thereby improve their productivity. In Kelly's model transport infrastructure linkages explaining that, railway can expand the extent of the market. Once a network is built, a small market will expand and labor will be re allocated in order to facilitate the increase of specialization and output. This model therefore predicts a take off in response to large-scale infrastructure development. Importantly it implies that what matters most is the completion of a network rather than individual unconnected projects, which in turn implies the projects outside of peripheral areas can have a significant impact on peripheral areas if they reduce transport costs for producers in peripheral areas (Kelly, 1997).

The trade enhancing effects of additional transport infrastructure are often used to justify investment in transport infrastructure for more remote regions. It should however be noted that railways transport not only reduces the transport costs of producers in more remote regions, it also reduces the cost of supplying remote regions for producers located in central regions.

Thus, presence of rail transport can have a perverse regional development impact where the investment leads to increased competition in a remote region, which could reduce unemployment in these areas. This issue was investigated by Kilkenny (1998) demonstrated a non-linear relationship between transport costs and rural economic development. In her model manufacturing and agriculture face different transport costs. A reduction in manufacturing transport costs results in increased concentration of manufacturing in cities and rural income developments.

The following is the empirical review, as it explains what other studies have gone through on the subject on how railway transportation boost rural economy development.

2.4.1 Rail Network

(Duncan,I & Leung, J (.2013) examined factors that lead to the formation of short-line railroads, they noted that some short-lines can be operated profitably and are important for local rural and small community-based shippers, while many others remain unprofitable.

Morral, J. F & Abdelwahab, W, M (1993) examined the issue of short line railroads in the context of rural rail abandonments. They identified key factors that determine short line success or failure and develop a profile for a profitable short line railroad. They concluded that short line railroads may represent a viable transportation alternative for some rural areas, but stresses the long-term financial survivability of short line railroads is not assured.

2.4.2 Rail Service

Banister, D.& Berechman. J. (2000) measures the potential impact resulting from rail abandonment in a ten county region in south-central Kansas. They identified lost economic development potential for communities that lost rail service, and assessed indirect effects on the social structure of affected communities. They argued that one alternative for communities facing rail abandonment is to provide public assistance for truck only transportation.

(Kernohan,D, & Rognlien, L (2011)explores consolidations in the rail freight industry and their impact on rural Africa. They discuss importance of railway services in rural areas and suggest solutions for the rural rail transport problems. The future of the rural population depends on low cost transport facilities so that they can carry their agricultural products to markets.

The study conducted by Nevel, et al 1990 provides a history of the Rails-to-Trails movement; it identifies economic impact of the program of the railways in rural areas, including increased revenue from tourism for small towns and a rise in property values along some rail corridors and other benefit such as railway bankingas the preservation of the rail corridor network for potential future reconversion to rail use.

Russell, (1995) examines various negative effects associated with railroad abandonment in Kansas. They measured the impact of rail abandonment in terms of the effect on farmers, shippers, and rural communities and finds that rail abandonment resulted in only a negligible increase in trucking activity, but such activity led to a significant increase in road damage costs. They advocate the use of motor carrier user fees to provide for road maintenance costs of which will also avoid the slowdown of the village's centers where used to be train stop.

2.4.3 Passenger Transportation

(Bollinger, C. R. & Ihlanfeldt, K. R (1997): discusses the role public transportation plays in rural economic development. They present examples of how transport

impacts economic development resulting from the Community Transportation Association of America (CTTA) Rural Passenger Transportation Technical Assistance Program and specifically mention benefits such as investment attraction and improvement of wellbeing.

Brown, D. M (1996) explores various issues surrounding the provision of passenger's rail service to non-metro communities and discusses some of the options available to these communities. The financial difficulties of Amtracks have put parts of the national network in bad situation which affected some rural areas. They conclude that while the loss of rural passenger rail service will not usually, by itself, threaten a community's economic survival; it may have adverse effects that can be offset by public policy.

2.4.4 General Studies on Infrastructure

Mamuneas, T. (2000) examines the relationship between transportation expenditures and economic growth for rural and urban areas in Nigeria. They use polynomial distributed lags to estimate income and employment growth arising from transportation investment. Results indicate that transportation expenditures have a positive economic impact on nonfarm and farm incomes and on employment in rural areas, while theysee transportation as a necessary, but not sufficient, condition for economic growth.

Fendley K. & Will. M (1995) uses a mail survey of voters in Northwest Arkansas to explore attitudes of local citizens toward improved rail infrastructure and continued

growth. The study concludes that local voters want the benefits associated with growth in the form of improved rail transportation and higher quality jobs, while preserving quality of life issues including environmental factors.

Forkenbrock, D. J & Weisbrod, G. E (2001) discusses the relationship between transportation and economic development. Six standards are identified for the types of trade-offs that local development practitioners must make when choosing among different projects with limited resources. The study presents a series of decision screens to provide a practical basis for applying the principles discussed. The result has shown that infrastructure like railways have huge impact on economic development as it facilitates easy movements of goods and services.

Forkenbrock, D. J & Weisbrod, G. E (2001) examines different modes of transportation in the context of rural development. They argued that highways are necessary but not sufficient for economic growth and development but railways can be the best modes of transport for the rural to develop. The study also provides the cost and benefit advantage as railway investment cost is very high compared to roads but it has low maintenance cost and it last longer than road or highway.

Haynes and Kingsley E (1997) reviews labor market issues in terms of mobility and policy resulting from transportation improvements. The study examines empirical evidence of the impact of high-speed rail on labor markets and their structure. The high speed rail increase spatial interaction approach for assessing changes in regional access and regional industrial mix. Easy movement of laborers and raw material from interior increase industrialization and urbanization.

Study conducted by Hough, J. A. (2002), seeks to develop a better understanding of the relationship between transportation and rural economic development. They compare the perceptions of economic development specialists and manufacturers about various business location factors, including rural transportation.

Johnson, T. G (1996) examines the relationship between physical infrastructure development and rural quality of life issues, with an emphasis on the associated economic effects. They review issues related to the empirical estimation of economic impacts of investing in infrastructure like railways. They consider the empirical evidence related to such investments, especially the differential impact of alternative strategies involved in providing infrastructure.

These findings imply that transport investment should be focused on facilitating high density i.e. to reduce congestion associated with high density. This is consistent with the finding by Hymel, K (2009) that reducing congestion has strong employment growth effects. Another related finding by Sweet. M (2014) shows that while firms relocate away from locations with region wide congestion they tend to be drawn to places with high local congestion, as they indicate local amenities.

The research on the relationship between transport infrastructure for example railways, density and productivity has largely focused on the benefits of projects in regions where the project takes place. However, if a project changes land use (density) then it is possible that this arises through displacement i.e. by drawing firms away from other areas which implies a cost to these areas. Furthermore, the benefits

need to be considered in the light of the incurred costs (Kanemoto, 2013). Several authors have examined rail transport-growth nexus both in the developed and the developing countries. Herranz-L, (2011) examined the contribution of rail transport to economic growth in the Latin America before 1914. The paper used the growth accounting framework to provide estimates of the contribution of railways to the region's economic growth using four of the main Latin American economies (Argentina, Brazil, Mexico and Uruguay), in order to obtain the impact of the railway on those economies during the period of export-led growth. Results show that the contribution of railways to growth varied substantially across Latin American countries. More precisely, in the case of Uruguay, the growth impact of railways was very low, lower actually than in some European countries, such as Britain and Spain. This unexpected result may be explained by the features of the Uruguayan geography and economic structure, and provides a clear counterexample to the hypothesis that railways had higher benefits in Latin America than in the core industrialized countries.

Furthermore, Herranz-L (2011) examined the role of railways in export-led growth of Uruguayan rural economy between 1870 and 1913 using OLS estimation. The results showed that Uruguayan railways did produce some positive effects.

However, their rural economic impact was much lower than in other countries of the region that experienced export-led growth. This indeed has affected the growth prospects of the Uruguayan economy. The results, therefore, provide reason for relative poor performance of the rural economy during the period under study. The

study concluded that Uruguayan case provides a clear-cut example in which geography limited the potential of railway technology to generate significant levels of rural developments.

Atack , J .(2009) investigated whether railroad induced or followed economic growth in the American Midwest for the period 1850-1860. Using a newly developed GIS transportation database, the study examined the subject matter, focusing on two indicators of broader economic change, population density and the fraction of population living in urban areas. The difference in differences estimates (supported by IV robustness checks) strongly suggests that the coming of the railroad had little or no impact upon population densities just as Albert, F. (2017) low concluded some 40 years ago. However, the results also imply that the railroad was the reason for Midwestern urbanization, accounting for more than half of the increase in the fraction of population living in urban areas during the 1850s.

Haines & Margo, (2006) used panel data set of counties for 1850 and 1860 to examine the economic impact of gaining access to a railroad on local economic development in the US. Difference in approach was adopted to compare outcomes from a treated group (counties that gain rail access in the 1850s) with a control group (those that gain rail access before and after 1850s). Results showed that rail access appears to have increased the percentage participation in the service sector, decreased agricultural yields, and reduced the share of improved acreage in total land area.

In addition, Apanisile, O, T.& Akinlo, T. (2013) studied the impact of rail transport on the Colombian's economic development using panel data set for the period 1914-1980. The study adopted fixed effect model and found out that railroads play an overwhelming role in the Colombian economy, unlike other Latin American countries with similar rail transportation system such as Brazil and Mexico. In addition, the study found out that railroads caused expansion of coffee exports, with high magnitude of those effects in the rural development.

In order to verify the impact of rail transport on rural development, Bollinger and Ihlanfeldt (1997) used a simultaneous model of census tract population and employment to study the development impact of Atlanta's MARTA rail transit system for the period 1980-1990. The results indicated that MARTA has had no discernible impact on total population or employment in station areas, but it altered the composition of employment in these areas in favor of the public sector as they developed due to the presence of rail line.

2.4.5 Railways Supporting Export Growth

The expansion of the railways in the second half of the nineteenth century also delivered significant gains for developed economies. Railway and their associated technology highly facilitate economic growth of the UK. The welfare benefits to society from railways in 1865 have been estimated to be equivalent to some 4.1 per cent and 2.8 per cent of Gross National Product (GNP) for freight and passenger transportation respectively.

The returns on creating a railway network have been estimated to be even higher in developing countries, such as Brazil, which had poor alternative transport links, than in more developed ones, such as the UK, where a well-developed canal network and extensive coastal shipping remained in operation.

2.4.6 Railways Influencing Economic Geography

The creation of the railway transport network influenced the location of economic activities (economic geography). Its revolutionised passenger movement and were critical in the creation and growth of many rural to urban. The subsequent development of the strategic rail network played a key role in the relocation of new, light industries, attracted by market access and new clusters. This was especially the case in the South East UK and is evident in the new industrial districts created around outer London, for example, those close to the A406 (North Circular).

Transport including railway transportation have mechanisms by which could, in principle, improve economic performance. Those mechanisms are identified as follow; Rationalisation of production, distribution and land use, effects on labour market catchment areas and hence on labour costs. Also increases in output resulting from lower costs of production, Stimulation of inward investment, Unlocking inaccessible sites for development, triggering growth which in turn stimulates further growth. Not only that but also railways as one aspects of the transport sector impact the rural economy or development through the following micro driver mechanisms, increasing business efficiency, through time savings and improved reliability for business travelers, freight and logistics operations. For example, a 5 per cent

reduction in travel time for all business travel on the road network in Great Britain could generate around £2.5 billion of cost savings: 0.2 per cent of GDP.

In addition to that: Rail way Increasing business investment and innovation by supporting economies of scale or new ways of working, Supporting clusters and agglomerations of economic activity, its improvements can expand labour market catchments, improves job matching, and facilitates business to business interactions. Railway Transports contribution to such effects is most significant within large, high productivity such as in coal mining in China is the most significant example, adding 30 per cent to the time saving benefits of some transport schemes. Such productivity effects extend across commuter catchment areas, dropping away after forty minutes of travel time (SACTRA, 1999). Also it improve the efficient functioning of labour markets, increasing labour market flexibility and the accessibility of jobs. Transport including railways can facilitate geographic and employment mobility in response to shifting economic activity e.g. in response to the forces of globalisation, new technological opportunities, and rising part-time and female participation in the labour market.

Nationally, transport improvements are unlikely to have a large effect on the employment rate, though may do so in some local circumstances. It increasing competition by opening up access to new markets. Railway Transport improvements can allow businesses to trade over a wider area, increasing competitive pressure and providing consumers with more choice. The UK is already well connected, so significant competition impacts are most likely to be felt from the integration of

markets globally. Also it increase domestic and international trade by reducing the costs of trading. Since 1960, falling railway transport costs have boosted the international trade of goods by 10-17.5 per cent, raising UK GDP by an estimated 2.5-4.4 per cent. Domestic trade links are particularly important to the economic success of some urban areas e.g. the relationship between the financial services sectors in Leeds and London (Eddington, 2006).

2.4.7 Impact on Business Sector Cost-Efficiency

Railway transport system result in various down-stream effects on the economy, one of which is the potential impacts on business efficiency, railway transport can present firms with a range of opportunities to reorganise their production and distribution channels to achieve cost savings that could not otherwise be achieved. Lower transport costs may also present other opportunities, such as the ability to choose the most appropriate suppliers to improve efficiency, offer more competitive prices and compete for sales in more distant markets (SACTRA, 1999).

The improvement of travel conditions resulting from rail transport infrastructure investment may have wider impact on the network by inducing and affecting demand on a cross-modal basis as well as improving quality of transports services.

Literature has identified long run and short run impact of railway projects from establishment to the use of railway line. The short run impact can seem large in a given year but, as these are transitory i.e. they disappear as soon as the project is finished, they are usually considered secondary to the long-run impact. However, if one holds all other factors equal, then the short-run impact of a project is likely to be

larger in less developed areas than in more developed regions. For example, if the less developed region has high unemployment and the developed region has no unemployment then a project would reduce unemployment in the less developed region while it would just increase prices in the developed regions (assuming no migration). However, the opposite is likely to be true for the long-run impact, as there are fewer beneficiaries.

2.5 Study Gap

The reviews of literature suggest that most of the studies have been done on issues related to railway transport and rural development or rural economy in countries like USA, UK, Finland and Australia. However, the volume of research on railway transport and rural development is low especially in Tanzania context. For that case the researcher decided to fill that gap by undertaking this academic investigation regarding the impact of railway transport on rural economic development in Tanzania in a case study of Tanzania Railway limited. Theoretically, from different author, they have been reviewed on the side of the impact of the railway transport on the general economy and not specifically to economy of the third world country which characterized with more challenges such as rural urban migration and poor management or leadership. Hence this study will bring about new theoretical knowledge to understand railway transport in third world countries.

2.6 Conceptual Framework

The researcher has amended Porter's general model of demand and supply to include rural development and railway transport as factor condition. The original Porter's

definition of demand conditions refers only to home demand for goods and services. The expansion of that definition to include demand and supply for goods and services produced by the rural areas economy, these attributes form an inter-connected feedback system where railway transport and rural economy play an important role.

Observable railway transportation flows of passengers and cargo give rise to enabled flows which directly affect the rural economy. Under this circumstance passengers and cargo are independent variables, while rural development is dependent variable which is directly affected by passengers and cargo.

The enabling impact of railway transportation is defined as the total economic impact on employment and income generated by the economic activities which are dependent on the availability of railway transportation services. The model concept explains that, the enabling impact of railway transportation is achieved through railway transportation flows of passengers and cargo which occur between an economy of interest and transportation services and their related activities. The total enabling impact on a particular economy is defined as that produced by passenger and cargo flows between that economy or development and the rest of the countries.

At the macroeconomic level, railway transportation impacts economy by providing employment and by enabling effects including enabling access to markets, to people, to capital, to ideas and knowledge, to labor supply, to skills, to opportunity, and to

resources. The rural development in turn provides capital and generates demand for passenger and cargo.

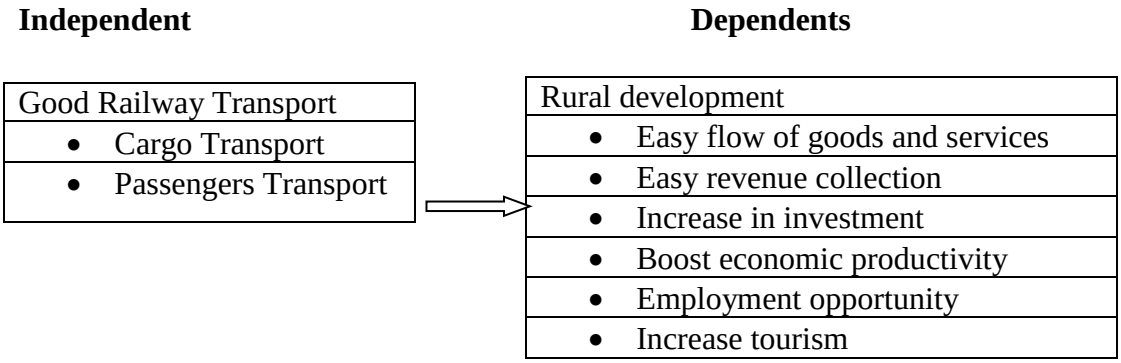

Figure 2.1: Conceptual Framework

Source; Own construct (2016)

2.6.1 Independent Variables

2.6.1.1 Cargo Transport

These are items that are transported by railway from one place to another. Such cargos transported by railway are heavy goods such as minerals, agricultural products such as maize and rice.

i.) Passengers transport

These are people who travel by railway transport. People move from one place to another for different purpose such tourism, business, education and employment.

2.6.2 Dependent Variable

The dependent variable of this study is rural development of specified areas. This will be observed by capturing respondent's opinion on:

2.6.2.1 Easy Flow of Goods and Services

These are items that are moved from one place to another by railway transport. The productions of goods from industries or farms are moved to different place such as to customers or shop with ease.

2.6.2.2 Easy Revenue Collection

Most of the activities conducted in railway transport sector such as cargo and passenger's movement, companies that are providing services and tourist paytax to the government of which that money is used to develop social services and infrastructure.

2.6.2.3 Increase Investment

Investment are economic activities that are highly development dependent to the presence of well-developed of railway transport. Railway transport enables investors to come and invest in the rural areas which easily the accessible.

2.6.2.4 Boost Economic Productivity

The presence of highly developed railway transport, services industry and investment increase economic productivity in the rural areas and country in general. These are major component in the development of GDP as the growth of GDP depend on those variables

2.6.2.5 Increase Employment

The flow of people from one place to another enabled by railway transport include also expert who going to work in different field. Most of those experts they

specialize to rare field in the destination so the economy enjoys new and valuable professional who bring knowledge and technology.

2.6.2.6 Increase Tourisms

Tourists are people who travel for leisure and are the main contributor in term of tax payment to the government.

HAPTER THREE

3.0 RESEARCH METHODOLOGY

3.1 Introduction

This chapter presents methodology of the study. Specifically, it presents the study area, the design of the study, study population, sample size and sampling procedures, methods of data collection as well as data presentation and analysis procedures.

3.2 Research Philosophy

A research philosophy is simply a belief in relation to the means to which information on an observable fact should be collected, analysed and utilized. According to Saunders *et al.,* (2009) research philosophyis a term that relates to the development of knowledge and the nature of that knowledge. This study was based on the positivism philosophy**.** Positivism involves working with an observable social reality and that the end product of such research can be law-like generalizations similar to those produced by the physical and natural scientists (Saunders *et al.,* 2009).

This study involved the use of an existing theory to develop research questions and testing them in an objective way using statistics. Positivism is mostly adopted by quantitative studies whereby questionnaires are used as a tool to obtain data. With this philosophy it was easy to validate results through statistics. Another important component of the positivist approach to this study is that theresearch was undertaken,

as far as possible, in a value-free way. This approach aims to exclude a researcher's own values when conducting research. Hence, the researcher becomes independent of andis neither affects nor affected by the subject of the study.

3.3 Research Design

The study used a mixed research design. It includes the documentation review and survey of the study area. The importance of using case study is that it provides more insight and the conclusions which are not tentative in nature also the nature of the study itself as the data are centralized to one institution. Documentation review was used due to the nature of the study as most of the data are from secondary source (Cooper & Schindler, 2001).

3.4 Research Area

The study was conducted at TRL stations of Dar es Salaam, Morogoro, Dodoma, Tabora, Mwanza, Shinyanga and Kigoma. Those are the main railway station which count large number of passengers and cargo for go and return. Also was accessible for research on data collection as one of the employees.

3.5 Study Population

The population of the study included all management staffs from TRL headquarter in Dar es Salaam and few Local government authorities where railways have stations such as Morogoro, Dodoma,Tabora, Mwanza, Shinyanga and Kigoma.

3.6 Sample Size, Sample Procedure

This study was intended to collect data from TRL management and some local

government authorities from Morogoro, Dodoma,Tabora, Mpanda, Mwanza, Shinyanga and Kigoma as the areas where there are railway stations and areas passed through by railway line. Sample size of 50 respondents from case study areas have been identified and researched. The research applied purposive sampling in choosing the sample simply because there have been specific technical questions for TRL staff and LGA to be answered. Researcher submitted research questionnaire to the sampled population to economic officer of those institutions and ask the office to distribute to responsible personnel.

3.7 Variables and Measurement Procedures

The conceptual framework of this study consisted of good rail way transport as the independent variables whereas rural development was the dependent variable. The indicators for good rail way transport were cargos transported and passengers transported while rural development was measured by easy flow of goods and services, easy revenue collection, increase investment, Boast economic productivity, employment opportunity and increase in tourism.

In detailed according to the objective variable and measurements were explained as follows.

3.8 Data collections Methods

The study used both primary and secondary data. This is to say Primary data was collected through the use of questionnaire while secondary data was collected through which books, journals, TRL reports, and other information from the internet.

3.8.1 Questionnaire

A questionnaire consists of a number of questions printed or typed in a definite order on a form or set of forms (Kothari, 2004). Structured questionnaires were used. Structured questionnaires are definite, concrete and pre-determined questions. Questions have been presented with exactly the same wording and in the same order to all respondents. The forms of questions were stated in a five-pointliker scales.

This instrument has been used in this study due to the following merits; it was cheap and more appropriate for the sample needed by the study. The instrument gave adequate time to give well thought out answers, it helps also to reach respondent who were not easily approachable, the instrument had few demerits such as late responding, some of respondent get bored to answer question with long answers. To overcome all those demerits researcher had extensive and closely follow up.

3.8.2 Documentary Review

These are data obtained from literature sources or data collected by other people for some other purpose (Kothari (2004). These data provide second hand information and include both raw data and published ones. Researcher has collect data concerning with the railways and rural development.

Secondary data may either be published data or unpublished data. Published documents are books, magazines, newspapers, reports, public records and statistic, historical documents, specifically the study will review annual report of TRL, brochure and other publication from website and ministry of transportation website

and reports. Secondary data were cheap and inexpensive to use for data collection. It was easy to access ‘since they are available for that case researcher saved time during the research work.

3.9 Reliability and Validity of the Research Instrument

The data scanning and scrutiny technique was used from questionnaires and respondents. This has been done in order to examine and validate the survey instrument so as to ensure content validity and reliability before data entry into the computer.

3.9.1 Validity

Validity is the extent to which an instrument measures what it is supposed to measure and performs as it is designed to perform. It is rare, if nearly impossible, that an instrument be 100% valid, so validity is generally measure of degrees. As a process, validation involves collecting and analysing data to assess the accuracy of an instrument. There are numerous statistical tests and measures to assess the validity of quantitative instruments, which generally involves pilot testing. This study focuses on external validity and content validity.

External validity is the extent to which the results of a study will be generalized from a sample to a population. Establishing external validity for an instrument, then, it follows directly from sampling. Recall that a sample should be an accurate representation of a population, because the total population may not be available. An instrument that is externally valid helps obtain population generalizability, or the degree to which a sample represents the population.

Content validity refers to the appropriateness of the content of an instrument. In other words, do the measures (questions, observation logs, etc.) accurately assess what you want to know? This is particularly important with achievement tests. Consider that a test developer wants to maximize the validity of a unit test for 7th grade mathematics. This involved taking representative questions from each of the sections of the unit and evaluating them against the desired outcomes.

Also to ensure validity, triangulation technique have been applied in this study by using interviews, questionnaires and secondary data analysis concurrently and this have been done through piloting of the data collection instruments that used to collect data. The data collection instruments were designed in such a way that they reveal the truth about the relationship between railway transport and rural development in Tanzania. Issues developed from conceptual framework were compared with issues obtained during interview and answers obtained from questionnaires so as to ensure construct validity.

3.9.2 Reliability

The extent to which results are consistent over time is referred to as reliability and if the results of a study can be reproduced under a similar methodology, then the research instrument is considered to be reliable.

In order for reliable data to be collected, the researcher designed the interviews and questionnaires through an elaborated procedure which involved a series of revisions under the guidance of the study supervisors to ensure that fieldwork conducted by

using high quality data collection tools. In order to measure internal consistency, researcher used checklist of questions during in making personal interviews with respondents so as to achieve data consistency and completeness.

Reliability can be thought of as consistency. Its look whether the instrument will consistently measure what it is intended to measure.

3.10 Data Analysis

The compilation and processing of the data which have been collected from the field was done immediately after the field work. According to Kothari (2005) data analysis and processing involves editing the schedules, coding and classification and entering data into the computer.

The quantitative data was sorted, edited, coded and then processed with help of the computer using different computer applications such as the Statistical Package for Social Sciences (SPSS). The applications provide listings, chart, graphs and tables. All of these have been used to provide a clear picture of the impacts of the railway transport on rural development.

3.10.1 Objectives Measurement and Analysis

The objective number one which needs to assess the railways transport sector in Tanzania and its extent of use was measured and analysed by using Cargo transport and passengers transport variables

The objective number two which needs to assess the development extent of areas along Tanzania railways line was analysed and measured by using goods transported by railways in those researched areas, investment, the development of economic productivity movement of labour and services in those areas.

And the objective number three which needs to determine the relationship between railways transport and rural development, was analyzed by using the variables developed in liker scale which measure also the impact of railway transport on rural development, those variable includes; income generation, rural productivity, rural transportation, improvement of the supply chain, enabler of the investment, facilitate rural employment and facilitation of the urbanization. -Therefore, those factors will be analyzed through the use of cross tabulation on SPSS.

3.11 Ethical Consideration

The ethical issues considered when conducting this study were: informed consent of the participants, voluntarily participation and privacy of possible and actual participants. Moreover, the respondents were well-informed that data gathered was only intended for educational purposes, maintenance of the confidentiality and anonymity of the provided data. Last but not least, information sources and materials were accredited and a letter of research clearance was obtained from the directorate of postgraduate studies.

CHAPTER FOUR

4.0 RESEARCH FINDINGS, ANALYSIS ANDDISCUSSIONS

4.1 Introduction

This chapter is about presentation, analysis and discussion of the findings. The first part gives the summary of the study population characteristics followed by the interpretation of those characteristics.

Data is presented and discussed with the help of tables and figures as means of summarizing and clarifying on the matter discussed for each finding with regard to the study objectives.

4.2 Demographic Profile of the Respondents

This section present demographic profile of the respondents and analysis, it has been done to present demographic characteristics of the respondents in connection to the objectives of the study.

4.2.1 Age of the Respondent

Through questionnaires the study investigates age distribution of the respondent so as to observe the age group who were working with transport sector and other beneficiaries. As it shown in Figure 4.1 below, the age of respondent of below25-36 were26%,of 37- 47 are 38%,of 48 -55 were 22% and above of 56 years are 14%. The big percent falls in most experience age hence putme in a good position of get good and purified data in my research. The distribution of age of my respondents is as follows below in Table 4.1

Table 4.1: Distribution of age of Respondents

S/N	Age	Percentage (%)
1	25- 36	26
2	37- 47	38
3	48- 55	22
4	56 - and above	14

Source: Field Data (2017)

4.2.2 Education Status

Figure 4.1 below shows education background of the respondents whereby for secondary school is 5%, diploma 15%, under graduate 50%, and post graduate 30%. The investigation of education status has been done to see the education level of respondents, as it will help in understanding their capacity on the issues related to railway transport so that it can be easy to assess on the validity of the data collected. The study found most of the respondents are belonging to under graduate group that ensures me that they will have good understanding and experience of proper answer of questions that Ipost to them.

Table 4.2: Education Status of Respondent in Percentage

S/N	Education status	Percentage (%)
1	Postgraduate	30
2	Undergraduate	50
3	Diploma	15
4	secondary	5

Source: Field Data (2017)

4.2.3 Working Experience

In this section through questionnaire, respondents were asked about their working experience as it will help the researcher to get accurate data. The experienced staff

can easily understand the trend of railway transport and its impacts and local government can know better the economic situation around caused by the presence of railway activities. The researcher found that 10% of respondents have been working under five years, respondents with working experience between6-10 years is 20%, respondents with experience between 10-15 years is 34%, and lastly respondents with working experience of 16 years and above is 32%. These are groups of workers who are in the sector for so long and most of them are in senior position. They are very important in this study they are the one to give out live experience on sector development and its contribution to the economy development particularly in rural areas. The data is presented in Figure 4.2 below.

Table 4.3: Working Experience

S/N	Working experience (years)	Percentage (%)
1	Above 16	33
2	10 - 15	35
3	6 - 10	21
4	Below 5	11

Source: Field Data (2017)

4.3 To assess the Contributions of Railways on Rural Economic Development

One of the objectives of this research was to assess the contributions of railways on rural economic development. The researcher developed different statements to be related in scale of 1 to 5. 5= strongly agree, 4= agree, 3= moderately, 2= disagree, 1 = strongly disagree. The findings are described in Table 4.2.

Table 4.4: Contributions of Railways on Rural Economic Development

Statements		Strongly agree	Agree	Moderately agree	Disagree	Strongly disagree	Median score
The railway eases the rural supply of the agricultural inputs	Frequency	21	20	2	3	4	4
	Percent	42	40	4	6	8	4
Railway links rural agricultural producers to markets	Frequency	24	14	2	6	4	4
	Percent	48	28	4	12	8	4
Railway attracts investors to rural agriculture sector	Frequency	25	21	1	1	2	5
	Percent	50	42	2	2	4	
Railway reduces transport costs on the distribution of the agricultured products to the markets	Frequency	24	14	2	6	4	4
	Percent	48	28	4	12	8	4
Railway increase the reach of the remote farmers with extension services	Frequency	21	20	2	3	4	4
	Percent	42	40	4	6	8	4
Railway assures rural farmers with the credit facilities from financial institutions	Frequency	25	21	1	1	2	5
	Percent	50	42	2	2	4	5
Railway leads to the growth of agro-processing industries in rural areas	Frequency	18	19	5	3	5	4
	Percent	36	38	10	6	10	4

Source: Field Data (2017)

The findings as shown in Table 4.2 show that the majority of the respondents that 41 (82%) agreed on the assertion that the railways eased the rural supply of agricultural inputs. The researcher also found that 7(14%) of the respondents disagreed while 2 (4%) of the respondents were moderately. The high agreement of the respondents signifies that in areas where railways are not passing the agriculture inputs are very difficult for the farmers to access hence they travel a long way for so many days or couple of weeks to reach the towns where they can buy inputs like fertilizers, water pumps and so on. In this case the rural farmers do benefits from railway. In a nutshell, ina Likert scale of 1 to 5 (1 signifying strong disagreement and 5 means

strong agreement) typical respondents (median = 4) agreed that railway ease the rural supply of agriculture inputs.

Linkage of rural agricultural producers to markets is another role of railway transport. The findings as presented in Table 4.2, show that 38 (76%) of the respondents agreed while 10 (20%) of respondents disagreed and 2(4%) of the respondents were moderate agreed. The majority of the respondents, who agreed upon the understanding that agricultural products can be produced in one hand but the market of these products, is another case. The findings imply that in a Likert scale of 1 to 5 (1 signifying strong disagreement and 5 means strong agreement) a typical respondent is of the opinion that railways link agricultural produce to the markets (medium = 4). Railways therefore contributes to rural development through enabling produce to access the markets.

Railway transport in rural areas attracts investors to make greater investment to the rural areas since the place has adequate cheap land for industrial location. As presented in Table 4.3, the findings show that the majority of the respondents that is 46 (92%) of the respondents agreed whereas 3(6%) of the respondents disagreed and 1(2%) of the respondents were agreed moderately. The findings imply that railways attracts the investors to invest in rural areas as they are sure to take their products to the market places also to bring various inputs facilities and equipment to their production places which is located in rural areas. In a Likert scale of 1 to 5, typical response of the respondents was median = 5 (Strongly agreed railways attracts investors to the rural agricultural sector)

Since railway transports is cheap compared to other means of transport, the costs of the distributing the agriculture products to the market is cheap where there are railways. The researcher was interested to understand from the respondents' view points on the assertion that railway reduces transport cost, the findings show that 38 (76%) of the respondents agreed, whereas 10(20%) of the respondents disagreed while 2(4%) of the respondents were moderate. Road ways transport is a bit more expensive than railways in transporting cargoes from rural to urban areas. Agriculture in rural areas can be discouraged if the products are not distributed in a proper market channel. In a Likert scale of 1 to 5(1 signifying strong disagreement and 5 means strong agreement) typical respondents (median = 4) agreed that railway reduces transport costs on the distribution of the agriculture products the markets.

Railway increases the reach of the remote farmers with extension services. Remote areas can be easily reached if there is a reliable transport system like railway which can be used to travel the agricultural experts and extension researchers to rural areas. The findings show that 41(82%) of the respondents agree while 7(14%) of the respondents disagreed and the rest 2(4%) of the respondents were moderately. In a Likert scale of 1 to 5, typical response of the respondents was median = 4 (Respondents agreed that railways increase the reach of the remote farmers with extension services).

Railway assures rural farmers with the credit facilities from financial institutions. The researcher was interested to understand whether respondents agree or disagree

on the assertion that railways assures rural farmers with the credit facilities from financial institutions. The findings show that 46(92%) of the respondents agreed while the rest 3 (6%) of the respondents disagreed and 1(2%) of the respondents were moderately on this assertion. In a Likert scale of 1 to 5, typical response of the respondents was median = 5 (Strongly agreed railways insures rural farmers with the credit facilities from financial institutions).

Railway leads to the growth of agro-processing industries in rural areas. Rural agriculture increases the production of the raw materials such as cereals, cotton, sisal and sugarcanes that encourage the introduction of industries in rural areas. The majority of the respondents that is 37(74%) of the respondents agreed while 8(16%) of respondents disagreed, while 5 (10%) of the respondents were moderately. In a Likert scale of 1 to 5(1 signifying strong disagreement and 5 means strong agreement), typical respondents (median = 4) agreed that railway leads to the growth of agro-processing industries in rural areas.

4.4 To Determine the Contribution of Railways Transport in Rural Economic Development

The researcher investigated the effect of railways transport on socio-economic welfare of the rural communities by giving different statements that were rank in a time-point Likertscale as follows; 5= strongly agree, 4= agree, 3= agreed moderately, 2= disagree, 1 = strongly disagree. Table 4.3presents the findings on this objective.

Table 4.5: The Effects of Railways Transport on the Socio-Economic Welfare of the Rural Communities

		Strongly agree	Agree	Agree moderately	Disagree	Strongly disagree	Median score
Railways increases petty business along railway stations	Frequency	24	14	2	6	4	4
	Percent	48	28	4	12	8	4
The revenues collected from railways establish social services	Frequency	21	20	2	3	4	4
	Percent	42	40	4	6	8	4
Railways reduces transport costs on the distribution of the agriculture products to the market hence income generation enhanced through saving	Frequency	25	21	1	1	2	5
	Percent	50	42	2	2	4	5
Railways leads to expansion of hospitality industry such as hotels	Frequency	17	13	1	12	7	4
	Percent	34	26	2	24	14	4
Railways reduces transport costs of students who seek education in urban areas	Frequency	19	13	2	1	15	4
	Percent	38	26	4	2	30	4
Railways increases employment opportunities	Frequency	18	21	1	5	5	4
	Percent	36	42	2	10	10	4
Railways promote access to health and reduce maternal and infant mortality	Frequency	17	13	1	12	7	4
	Percent	34	26	2	24	14	4

Source: Field data 2017

The findings as shown in Table 4.3presents the respondents views on the effects of railways transport on the socio-economic welfare of the rural communities as the following; -

It increases petty business along the railways stations. The researcher analysis found that the majority of the respondent that is 38(76%) agreed that railway transport has a greater contribution on rural economic development whereas 10(20%) of the respondents disagreed while the rest that is 2(4%) were agreed moderately. In a

Likert scale of 1 to 5, typical response of the respondents was median = 4 (Agreed that railways increase petty business along railway stations).

The revenues collected from railways used to establish social services such as education, health and water service. The research analysis found that the majority of respondents that is 41(82%) of the respondents agreed while 7(14%) of the respondents disagrees and 2 (4%) of the respondents were agreed moderately. In a Likert scale of 1 to 5, typical response of the respondents was median = 4 (Respondents agreed that the revenues collected from railways establish social services).

The findings imply that there is the linkage between different sectors with the railways whereby the intended results were to transport passengers and cargoes to different regions but there emerged unanticipated effects of railway such as the use of the related revenues to establishment and enhancement of other social services including hospitals that improves rural people's health, education services as well as water services.

A railway reduces transport costs on the distribution of the agriculture products to the market hence raises saving. The researcher also wanted to know the extent to which the respondents agree or disagree with the assertion that railways cuts costs of distribution of the agricultural products and increase savings. The findings show that 46 (92%) of the respondents agreed while the rest 3 (6%) of the respondents disagreed while 1 (2%) were agreed moderately. Results distribution of large

cargoes from rural to urban market through other means of transport is more expensive compared to railway. Through railway, the large cargoes are transported on a short time and the costs are minimized and the profits are realized as savings also go higher. In a Likert scale of 1 to 5, typical response of the respondents was median = 5 (Respondents strongly agreed that the Railways reduces transport costs on the distribution of the agriculture products to the market hence income generation enhanced through saving).

Like any other transport systems, railway leads to the expansion of the hospitality, industry such as hotels. In a Likert scale of 1 to 5(1 signifying strong disagreement and 5 means strong agreement) typical respondents (median = 4) agreed that Railways leads to expansion of hospitality industry such as hotels.

The researcher analyzed data and found that 46(92%) of the respondents agreed that railways transport has a greater contribution in encourage rural economic development while 3(6%) of the respondents disagreed and 1(2%) of the respondents were agreed moderately. The typical results findings are interpreted that along the railways stations there are the stations authorized by the government to offer services such as latrines, foods and beverages to the passengers. In doing so, the hotels grow spontaneously along the transport stations hence expansion of the hospitality industry is realized.

Railways increase employment opportunities. The researcher analyzed findings and found that the majority of the respondents that is 39(78%) agreed while 10(20%) of

the respondents disagreed and 1(2%) of respondents were uncertain. Railway increases opportunities to be employed to such as freight officers and transport logisticians and many more. In a Likert scale of 1 to 5 (1 signifying strong disagreement and 5 means strong agreement) typical respondents (median = 4) agreed that Railways increases employment opportunities.

Railways promote access to health and reduce maternal and infant mortality. The findings show that the majority of the respondents that is 30(60%) agreed, 19(38%) of the respondent disagreed, the rest 1(2%) of the respondents were neutral. Through railway, the pregnant women during birth can be safely and reliably travel to the big health facilities in the town areas like Morogoro and Dar Es Salaam where they can get reproductive and child health service hence reduction of maternal and child mortality. In a Likert typical respondents (median = 4) agreed that Railways promote access to health and reduce maternal and infant mortality. Scale of 1 to 5 (1 signifying strong disagreement and 5 means strong agreement).

4.5 To Determine the Factors Affecting Efficiency of the Railways Transport

The researcher was interested to investigate the major challenges facing the efficiency of the railway transport. The findings that are presented in table 4.5 shows that 34 (68%) of the respondents mentioned outdated engines and wagon, 32(64%) of the respondents mentioned shortage of engineers, 31(62%) of the respondents mentioned lack of modern technology, 28(56%) of the respondents mentioned poor infrastructure, 31(62%) of the respondents mentioned inadequate operating funds, 29 (58%) of the respondents mentioned shortage of experienced staff, 37(74%) of

the respondents mentioned competition from road transport. Table 4.4: challenges facing railways transport efficiency.

Table 4.6: Challenges Facing Railway Transport Efficiency

	Frequency N=50	**Percent = 100%**
Competition from road transport	37	74
Outdated engines and wagons	34	68
Shortage of Engineer's	32	64
Lack of technology	31	62
Shortage of experienced staff	29	58
Poor infrastructure	28	56

Source: Field Data (2017)

It was from the respondents' viewpoints that railway transport in Tanzania is experiencing many challenges in the entire operations of cargo transportation in central railway line. Among the common challenges are the difficulties of getting train locomotives and wagons, which are compatible with technology and infrastructure capacity of an existing railway line.

The other challenge TRL facing is outdated of engines and wagon equipment as it is shown from Table 4.5 that 68 percent of the interviewees mentioned this. It is difficult to obtain spare parts needed for maintenance. Even when the parts are available, it takes long time to repair the equipment.

The other subsequent challenge is the shortage of engineer and other experienced staffs something that has negatively affected the general functioning and operation of the railway system in correspondence to the advanced technological invention in railway transportation.

The other challenge which is also the main reason for the delay is shortage of engines and fuel that are needed to pull the cargo vehicle up to the area of offloading the cargo. According to the train expert interrogated, the average consumption of the engine fuel is 220 liters is needed per day compare to the target of 460 liters per day.

The competition it faces from the road transport that becomes an optional and efficient transport system, is another challenge facing railway it is difficult to collect sufficient revenues to cover variable costs of the railway company. This challenge becomes severe if it combined with the shortage of the company's operational funds, including inadequate allocation of the government resources for running the railway. These challenges affect the efficiency of the railway transport.

CHAPTER FIVE

5.0 CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter presents conclusions on key findings of the study on the contribution of railway transport in boosting rural economic development with a case study of Tanzania Railway Limited. It will include summary of findings and conclusion of the study. It also provides the recommendations and opportunity for future research.

5.2 Summary

Specifically, the objectives of this study were to assess the contribution of railways transport in development of rural agriculture, determine the effect of railways transport on the socio-economic welfare of the rural communities and assess the challenges facing railway transport efficiency.

5.2.1 Contribution of Railway Transports in Boosting/Encourage Rural Economic Development

The findings show the respondents views on the contribution of railways transport in boosting/ encourage rural economic development.

One of the objectives of this research was to determine the relation which railway transport have with rural economic development. The findings show railways transport in rural areas enable exchange of commodities and raw materials and hence promote rural economic development. The majority of the respondents are strong

agreed that railway transport has a greater impact to encourage rural economic development compared to few who disagree.

Linkage of rural products to markets is another role of railway transport. The findings show that majority of the respondents are strong agreed compare to few who are disagree.

Railway transport attracts investors to invest in rural places. The findings show that the majority of the respondents are strong agreed that railway transport attracts investors compare to few who are disagreed.

Railway transport is the cheapest transport that can be afforded by many people rural population in particular. The researcher was interested to understand from the respondent's view points on the assertion that railway transport is the cheapest transport that can be afforded by many especially the rural population. The findings show that the majority of the respondents strong agreed compare to few who are disagree.

Railway transport enable rural population to get social services. People who live in remote areas easily reach places where there are good services like agriculture experts, hospital, schools credit facilities, through the use of railway transport. The findings show that the majority of the respondents are strong agreed compare to few who are disagree.

Railway leads to the growth of agro-processing industries in rural areas. The majority of the respondents are strong agreed compare to few who are disagree that railways transport encourages agro- processing industries in rural areas.

5.2.2 The Effect of Railways Transport on Socio-Economic Welfare of Rural Communities

The findings as shown in Table 6 show the respondents views on the effects of railways transport on the socio-economic welfare of the rural communities asit increases petty business along the railways stations. The researcher analysis found that the majority of the respondent are strong agreed compare to few who are disagree. The direct contribution of the railway transport system is witnessed by different petty business such as food vendors, hawkers, barbershops and other business like shops.

The revenues collected from railways used to finance social services such as education, health and water service. The research analysis found that the majority of respondent are strong agreed compare to few who are disagreed. The findings imply that there is the linkage between different sectors with the railways whereby the intended results were to transport passengers and cargoes to different regions but there emerged unanticipated effects of railway such as the use of the related revenues to establish and enhance other social services including hospitals that improves rural people's health, education services as well as water services.

A railway reduces transport costs on the distribution of the agriculture products to the market hence raises saving. The researcher also wanted to know the extent to which

the respondents agree or disagree on the assertion that railways cuts costs of distribution of the agricultural products and increase saving. The findings show that the majority of the respondents agreed compare with the few who are disagreed. The distribution of large cargoes from rural to urban market through other means of transport is more expensive compared to railway.

Like any other transport systems, railway leads to the expansion of the hospitality industry along the line such as hotels. The researcher analyzed data and found that the majority of the respondents are strong agreed compare to few who are disagreed. The research interprets that along the railways stations there are stations directed by the government to offer services such as latrines, foods and beverages to the passengers in doing so the hotels grow spontaneously along the transport stations hence expansion of the hospitality industry is realized.

Railways increase employment opportunities. The researcher analyzed findings that the majority of the respondent are strong agreed that railways transport is the source of employment compare to few respondent who are disagreed. Railway increases opportunities to be employed to such as freight officers and transport logisticians and many more.

Railways promote access to health and reduce maternal and infant mortality. The findings show that majority of the respondents are strong agreed that use of railway transport promote accessibility of heath service together with reduction of maternal and infant mortality as it easy for people from local areas to go to referral hospital

which are in most cases located in urban areas, compared to few who are disagreed, Through railway, the pregnant women during birth can be safely and reliably travelled to the big hospitals in the town areas like Morogoro and Dar Es Salaam where they can get good health service compared to that is provided in local areas.

5.2.3 The Challenges Facing Railway Transport Efficiency

The researcher was interested to understand on the major challenges facing the efficiency of the railway transport. The findings that are presented in Table 4.5 shows that 34 (68%) of the respondents mentioned outdated engines and wagon, 32 (64%) of the respondents mentioned shortage of engineers, 31 (62%) of the respondents mentioned lack of modern technology, 28 (56%) of the respondents mentioned poor infrastructure, 31 (62%) of the respondents mentioned inadequate operating funds.

5.3 Conclusion

This paper has identified some of the key impact of the railway transport on the rural development while focusing on the close interrelationship between the railway sector and the supply/demand of railway transportation. The important and master plan of the Tanzania railway sector since the sector has dropped in late 1990s suggests that the nation has evolved to have a strong plan to develop railway transportation system for regional connectivity and more importantly rural development.

The Tanzania railway sector is facing a period of unprecedented stress due to the bad conditions of the rail infrastructure despite some effort that has been made by

government and its stakeholder. TRL have been unprofitable over the past years with little expectation of profitability in the near future.

Since the establishment of privatization policy in early 1990, institutional and political reforms have helped to integrate the country into the global economy and stimulate the growth in railway transport demand. Rural economy has become dependable to the urban economy and vice versa. In addition to changes in political framework, liberalization and privatization reforms were implemented to develop services and manufacturing sectors.

The result of privatization has enabled us to have strong need of railway transport sector that contribute to the economic development. Rural economy which mostly depends on agriculture has no way to develop unless railway sector has improved for them to access market for their agricultural products especially commercial crops such as cotton, sisal and tobacco.

5.4 Recommendations

The information provided from this study is essential in order for government and industry to take sound decisions and responsible actions and encouraging working in close partnership. So, after observations from this study, the researcher recommends the following;

i.) The railway transport industry in Tanzania should respond to the growing demand for mobility, by investing regularly in: new technologies, safety and

security improvements, faster and highly quality of standard gauge train and not traditional train.

ii.) The local passengers should be allowed to transport goods less than 20 kgs free of charge.

iii.) Transport fees should be lower compared to other means of transport in order local passenger to afford.

iv.) Railway stations should be rehabilitated to provide better services to its customer's e.g toilet, meals must be available 2y hours.

v.) The railway transport sector must be matched by government action and investment. Governments urged to further liberalisesome infrastructure without micro-managing the industry nor over-taxing it; provide a suitable framework for a mass transportation system without perpetuating nationalistic rules nor distorting competition through subsidies; and support infrastructure improvements and having new standard gauge train.

vi.) Investment of the railway infrastructure is very expensive of which government by itself cannot afford to invest, it should encourage more private, public partnership to develop the sector so as rural can be developed.

5.5 Further Study

This study is based on evaluating the impact of railway transportation to the rural development in Tanzania. It is the opinion of the researcher that the next study should focus on the effect caused by the poor railway infrastructure on cross border business.

REFERENCES

Albert, F. (2017). Improving Transportation Networks: effects of population structure and decision making policies: scientific reports.

Atack, J. (2009): Did Railroads Induce or Follow Economic Growth? Urbanization and Population Growth in the American Midwest, 1850-60. National Bureau of Economic Research Working Paper 14640. Retrieved from http:// www.nber.org/papers/w14640 on 12th May, 2018.

Apanisile, O. T. & Akinlo, T., (2013). Rail Transport and Economic Growth in Nigeria (1970-2011). *Australia Journal of Business and Management Research*. 3(05), 18-24. Retrieved on 11th June, 2017 from www.ajbmr.com/files/download/119dede95fa7991.

Banister, D. & Berechman, J (2000). *Transport Investment and Economic Development*. London: UCL Press.

Bollinger, C. R. & Ihlanfeldt, K. R. (1997). The Impact of Rapid Rail Transit on Economic Development*:* The Case of Atlanta's MARTA. *Journal of Urban Economics*, 42, 179 204.

Bonnie, N & Harnik P (1990). *Railroads Recycled: How Local Initiative and Federal Support Launched the Rails-to-Trails Movement, 1965-1990.* Washington, D.C.: Rails-to-Trails Conservancy.

Bollinger, C. R & Ihlanfeldt, K. R. (1997): The Impact of Rapid Rail Transit on Economic. Babcock M (1995). *Study of Impact of Rail Abandonment on Local Roads and Streets." Paper presented at the Sixth International Conference on Low-Volume Roads* (Volume 1), Minneapolis, Minn., June 25-29. Washington, D.C.: National Academy Press, Transportation

Research Board. *Source:* Map based on data obtained from *TANROADS, PADECO/JICA, TAA, TCAA.*

Brown & Dennis M. 1996(a). "*Rural America's Transportation Network*: Issues for the 1990's," Rural Development Perspectives 11 (2), pp. 10-17

Cooper & Ronald. 1990. "Airports and Economic Development: An Overview," *Transportation Research Record* 1274, pp. 125-133.

Crane & Laurence M. 1989. *Economic Effects of Transportation Expenditures on Employment and Income Levels Within Highway Districts*. College Station: TexasTransportation Institute, Texas A&M University.

Development: The Case of Atlanta's MARTA. Journal of Urban Economics Vol. 42 pp. 179-204.

Duncan, I & Leung, J. (2013) *New Zealand's productivity paradox – a transport policy perspective*. Retrieved from Ministry of Transport website: http://www.nzae.org.nz/wpcontent/_NZ_Productivity_paradox_from_a_transport_policy_perspective.pdf

Eddington, R. (2006). *The Eddington Transport Study – the case for action.* (Sir Rod Eddington's advice to UK government). Retrieved from: http://collections.europarchive.org/tna/20070129122531/http://www.hmtreasury.

Eddington, R. (2006). *The Eddington Transport Study* Retrieved from: http://collections.europarchive.org/tna/20070129122531/http:/www.hmtreasury.gov.uk/independent_reviews/eddington_transport_study/eddington_index.cfm

Esfahani.H. S & Ramirez M. T. (2003): Institutions, infrastructure, and economic growth. *Journal of Development Economics* 70 (2003), pp.443– 477. http://www.elsevier.com/locate/econbase. 1870–1913.*Economic History of Developing Regions*, 26(2), pp.1-32, DOI:10.1080/20780389.2011.625238

Fendley, K & Will M. (1995). "*Community Impact of Regional Transportation Infrastructure Growth."* Report No. MBTC FR-1017. University of Arkansas, Mack-Blackwell National Rural Transportation Study Center.

Finnegan D.J(1990), *Road investment to foster local economic development* (Midwest Transportation Center, Iowa City).

Forkenbrock, D. J & Weisbrod, G. E. (2001), *Assessingthe Social and Economic Effect of Transportation Projects:* Transportation Research Board.

Gary. O (1991). *Transportation and Rural Economic Development: A Comparative Analysis of Important Location Factors*. Mountain-Plains Consortium Report No. 94-1. Fargo: North Dakota State University, Upper Great Plains Transportation Institute.

Haines, M & Margo, R. A. (2006): *Railroads and Local Economic Development*: The United

Haynes & Kingsley E. (1997). "*Labor Markets and Regional Transportation Improvements:* The Case of High-Speed Trains," Annals of Regional Science 31 (1), pp. 57-76.

Haynes, R. & Savage, A. (2007). *Assessment of the health impacts of particulates from the redevelopment of Kings Cross*. Environmental Monitoring and Assessment130(1), 47-56.

Herranz-L, A. (2011): *The contribution of railways to economic growth in Latin America before 1914:* A Growth Accounting Approach. MPRA Paper No. 33578. Online at http://mpra.ub.unimuenchen.

Herranz-L. A (2011): *The Role of Railways in Export-led Growth: The Case Of Uruguay, 1870–1913.*Economic History of Developing Regions, 26(2), pp.1-32,

Honeyman & Joel S. (1995). *A Method for Assessing the Impact of Railroad Abandonment on Rural Communities.* Mountain-Plains Consortium Report No. 95-48. Fargo: North Dakota State University, Upper Great Plains Transportation Institute.

Hough, J. A. et al (2002), *Intelligent Transportation Systems*: Helping Public Transit Support Welfare to Work Initiatives.

Hymel,K., (2009) "Does Traffic Congestion Reduce Employment Growth?" *Journal of Urban Economics*, Vol. 65(2), pp. 127-135.

Johnson, T. G. (1996). "The Economic Impacts of Infrastructure Development," in *Rural Development Research: A Foundation for Policy*, pp. 85-101. Westport, Connecticut: Greenwood Press.

Kanemoto, Y., (2013) "*Pitfalls in Estimating "Wider Economic Benefits" of Transportation Projects", GRIPS* Discussion PaperNo. 13-20.

Kelly, M. (1997) "*The Dynamics of Smithian Growth*", Quarterly Journal of Economics, Vol. 112 (3), pp. 939-964.

Kothari, C.R (1990), *Research Methodology*, 2nd edition New Age International Publishers

Kernohan, D., & Rognlien, L. (2011), *Wider economic impacts of transport investments in New*

Morgenroth, E., (2010) "The Regional Dimension of Taxes and Public Expenditure in Ireland". *Regional Studies*, Vol. 44(6) pp. 777-789.

Morral, J. F. & Abdelwahab. W. M. (1993). *"Estimating Traffic Delays and the Economic Cost of Recurrent Road Closures on Rural Highways*," Logistics and Transportation Review 29 (2), pp. 159-177.

Mamuneas, T. (2000) "*Infrastructure, Specialisation and Economic Growth*." Canadian Journal of Economics, Vol. 33, No. 2, pp 506-522.

Nwanze, E. (2002), "*Conceptualization of the Nigerian Transport Problems and the need for an Integrated National Transport System*", A Paper presented during the Conference on Revitalization of Railway Transport in Nigeria at the Centre for Transport Studies, Olabisi Onabanjo University, Ago-Iwoye, August, 2002.

Russell R (1995). "*Competitiveness of Short Line Railroads*," Journal of the Transportation Research Forum 34 (2), pp. 13-25.

St. John, A. D & Harwood. D. W. (1991). "*Safety Considerations for Truck Climbing Lanes on Rural Highways*," Transportation Research Record 1303, pp. 74-82. States in The 1850s. National Bureau of Economic Research, working paper 12381.

Sweet, M. (2014) "*Do Firms Flee Traffic Congestion*?" Journal of Transport Geography, Vol. 35, pp. 40-49.

World Bank (1994). *Zambia Poverty Assessment: Main Report*. Vol. 1, November Zealand.Retrieved from New Zealand Transport Agency website: http://www.nzta.govt.nz/resources/research/reports/448/docs/448.pdf

APPENDIX

RESEACH QUESTIONNAIRE FOR DATA COLLECTION

QUESTIONNAIRES:

The Open University of Tanzania,
P. O. Box……,
Dar Es Salaam.

Dear Respondent,

RE: REQUEST TO RESPOND TO THE QUESTIONNAIRES

The caption above is concerned.

I am Mwatima, a student of The Open University of Tanzania pursuing MBA (Logistics Management). I kindly request you, to respond to the questions attached.

The study is for academic purposes only therefore all information provided will be treated as confidential and will be used for academic purpose only and will not be used in any other way apart from the intended one. The results of this study will be presented aggregate and no specific details will be disclosed.

Your co-operation towards a smooth realization of the intended goal will be highly appreciated.

Thanks in advance.

Yours sincerely

Mwatima,

QUESTIONNAIRE

Self-administered questionnaire to Tanzania Railway LimitedEmployees and the Management, Impact of Railway Transport on Rural Development in Tanzania

Dear Respondents,

My name is Mwatima Suleiman Said, final year student atThe Open University of Tanzania pursuing MBA (Logistics Management). I have been here with you in **Tanzania Railway Limited** conducting my academic research as the basic need for partial fulfilment needed in the award of MBA (Logistics Management) in The Open University of Tanzania

Dear Respondents, this questionnaire is to help in collecting data that will be used to show on Impact of Railway Transport on Rural Development in Tanzania at the Tanzania Railway Limited**.** Kindly respond to the questions attached as accurately as possible. The information provided will be treated as confidential and this research will not disclose the identity of the respondent (s) in any circumstance.

A. Personal Profile

1. Demographic

Please select the response that best describes your answer

a) Which of the following age category are you in?

- ☐ Below 25years
- ☐ 26-36years
- ☐ 37-47years

☐ 48-58years

b) What is your education level?

1. Secondary education
2. Diploma
3. Undergraduate

B

2. Contribution of Railways on Rural Economic Development

For question number 1to 6please tick the appropriate response in a 5 points scale. 5= strongly agree, 4= agree, 3=agreed moderately, 2= disagree, 1= strongly disagree

	Statements	5=Strongly agree	4=Agree	3=Agreed moderately	2=Disagree	1=Strongly disagree
1	The railway enables exchange of raw materials and commodities.					
2	Railway links rural agriculture products to the market place.					
3	Railway attracts investors to invest in rural places.					
4	Railway transport is the cheapest transport that can be afforded by many people especially rural population.					
5	Railway transport enable rural population to get social services.					
6	Railway leads to the growth of agro- processing industries in rural areas					

C

3. Effect of Railways Transport on the Socio-Economic Welfare of the Rural Communities

For question number 7 to 11 please tick the appropriate response in response a 5 point: 5= strongly agree, 4= agree, 3= agreed moderately, 2= disagree, 1= strongly disagree.

		5=Strongly agree	4=Agree	3=agreed moderately	2=Disagree	1=Strongly disagree
7	Railways increases petty business along railway stations					
8	The revenues collected from railways establish social services					
9	Railways leads to expansion of hospitality industry such as hotels					
10	Railways increases employment opportunities					
11	Railways promote access to health and reduce maternal and infant mortality					

18. Mention the challenges facing railway transport in Tanzania.

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