

**INFLUENCE OF TURKANA WIND POWER PROJECT ON ECONOMIC
EMPOWERMENT OF THE COMMUNITY; A CASE OF LOIYANGALANI,
MARSABIT COUNTY KENYA**

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DECLARATION

This research project is my original work and has not been presented for examination in any other university.

Signature..... Date.....

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This research project has been submitted for examination with my approval as university supervisor.

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DEDICATION

I dedicate this research project to my father Bernard, my mother Josephine and my siblings Dennis, Immaculate and Vincent who have been a source of strength and support through my academic journey. Their prayers and support have brought me this far and enabled me to pursue my education up to this level.

My utmost gratitude to God for his mercies, favor and blessings upon me for this far I have come, it's all because of Him.

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LIST OF ABBREVIATIONS AND ACRONYMS

CBK	: Central Bank of Kenya
CDD	: Community-Driven Developments
GoK	: Government of Kenya
IEA	: International Energy Agency
LTWP	: Lake Turkana Wind Power
MW	: Mega Watts
NGOs	: Non-governmental organizations
SA	: South Africa
SREP	: Supervisory Review and Evaluation Process
WB	: World Bank
SPSS	: Statistical Package for Social Sciences

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ABSTRACT

The study's purpose was to determine the influence of Turkana Wind power Project on economic empowerment of the community. Specifically, the study sought to examine in what ways the Turkana wind power project has influenced employment creation as an activity for economic empowerment of the community; to assess how the provision of physical infrastructure by the Turkana wind power project has influenced economic empowerment of the community; to establish how provision of social amenities by the Turkana wind power project has influenced economic empowerment of the community and to establish how revenue sharing by the Turkana wind power project has influenced economic empowerment of the community. The current studies were guided by system theory, social change theory, Keynesian theories and empowerment theory. This study adopted descript or explanatory design. The research was carried out in the Loiyangalani District, which is located in Rift valley Province in Kenya. The target populations of the research comprised of 34,175 residents of in Loiyangalani District, Marsabit County. The research employed snow balling sampling procedure to get a sample totalling to 384 respondents comprising of 380 local residents, two provincial administration officers and two civic leaders. The study used questionnaires because of its low cost and freeness from bias. Data analysis was done by use of qualitative and quantitative methods. Quantitative study method was used to analyze the collected data, SPSS to help analyzing data. Inferential statistics analysis was employed in analyzing the study outcomes. The study found that respondents agreed that physical infrastructure development, employment creation, provision of social amenities and revenue sharing brought about by the wind power project with composite means of 4.05, 4.22, 3.99, 4.08 respectively and standard deviation of 0.75, 0.68, 0.75 and 0.83 respectively have influenced the economic empowerment of the community. Comparatively it showed that there was a positive correlation between the independent variables and the dependent variables with correlation coefficients of 0.673, 0.422, 0.539 and 0.384 between physical infrastructure, employment creation, provision of social amenities and revenue sharing respectively. The study concludes that provision of social amenities along implementation of Turkana wind power project has positive significant impact on economic empowerment of the community, that residents of Turkana region enjoyed improved security and reduced capital distraction through improved lighting from wind power project. The study concluded that revenue sharing by the Turkana wind power project has a positive impact on economic empowerment of the community, this study concludes that Government entities implementing project at rural places must come up with sensitisation programme to the local communities on all economic indirect economic opportunities that locals can take advantage of. Again, the oversight committee should consider providing direct employment to the locals through their CSR programme. Regardless of nature of the project, the implementation team must adequately ensure that supportive physical infrastructure is implementation along the project. To ensure sustainability and efficiency in operations, the oversight team must ensure that all proper social amenities such as security provision, quality healthcare water, rescue teams must be made available. Given that the local communities appreciated more upon comprehending the benefits that come along with the projected project, it is therefore important for the implementation committee to ensure that the process of revenue sharing is made transparent and accountable.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Renewable energy can in general terms be described as the energy which may be derived from the resources that occur and are replenished naturally, say, wind, tides, waves, biogas, and sunlight. Renewable sources of energy may substitute conservative sources of energy in four distinguishable regions: sharing of electricity, space heating/ hot water, rural (off-grid) energy and motor fuel services. Electricity from wind is both variable and, to some extent, unpredictable, but experience and elaborate studies from many regions show that integration of wind energy does not pose insurmountable technical barriers (Belward et al., 2017). Wind power converts the kinetic energy in wind to generate electricity or mechanical power and this is done by using a large wind turbine usually consisting of propellers; the turbine can be connected to a generator to generate electricity.

Recent years have seen a rapid increase in the deployment of renewable energy, and this trend is projected to go further up into the future. Based on International Energy Agency (IEA), renewable energy accounted for 13.2% of total global primary energy supply and 19.7% of global electricity sharing in 2010 (International Energy Agency, 2012). Wind energy is one of the most technically advanced and economically viable sources of renewable energy currently available (Devine-Wright, 2015). For development of wind power to become effective, a hindrance which mostly must be challenged is overcoming resistance by the local community in which the development happens to be proposed upon. For many instances, the wind farms tend to be very controversial and encounter substantial resistance from the inhabitants close to the developments which are proposed (Warren & McFadyen, 2010). This resistance can be overcome by showcasing the extent to which the developments have a positive impact on the interests of the local communities.

Kenya did have a strategy for energy for the Vision 2030 in place, that recognizes affordable, clean and reliable as the basis for social development and economic growth in the long run for Kenya and continues to state that come 2030, a capacity of 2000MW or 2GW is supposed to be provided by wind power. Energy Act from year 2006 provided the Regulatory Commission for Energy the authority of controlling the planning system and sharing of the

projects of Kenya's energy and the energy ministry had demanded for reforms already to make projects of renewable energy a priority (Owino & Kamphof, 2016). Besides initiatives and reforms by the government, several projects and sectors of energy were chosen as the candidate to be financed for purposes of the government of Kenya to accomplish their 2030 vision. In the report of Supervisory Review and Evaluation Process (SREP) geothermal energy was ranked the top in priorities despite that it was ranked with high costs of drilling to tapping this source of energy and thus needed heavy investments. As well, wind power was approximated as being of top priority, because the present projects did only amount to a 5MW, nonetheless, there happened to be some issues which drew back wind power investments. Wind as a resource is interruptible which needs a reserve backup for power which may come in place within a short period notice (Wang & Zhang, 2015).

Kenya's present policy objectives of energy accentuate the essence of accessibility and availability of energy at prices that are cost efficient. As well, this policy does support viable socio-economic growth whereas still conserving and protecting the surroundings. Kenya's major energy sources include electricity, renewable energy, petroleum, fuel and wood. From the overall requirements of energy in the nation, the heavy (68%) of the nation's primary consumption of energy is from use of wood fuel as well as other sources of biomass. Petroleum follows at a rate of 22%, then electricity at the rate of 9% and the rest of the sources being at the rate of 1%. From the listed Kenya's major energy sources, electricity happens to be very key in the country's economic growth. The availability of reliable and inexpensive electricity supply is a driver of the economy of Kenya (Ben-Iwo, Manovic & Longhurst 2016). Nonetheless, the supplies of electricity in Kenya are expensive and unreliable. This comes from a number of causes which include poor management of the purchase agreements of power resulting to very huge tariffs on power that is privately produced, unfair distribution of costs of operations, ineffective and weak management, non-cost effective and wasteful procurement, failing to make investments on reinforcement of the system, poor governance, poor distribution and maintenance of infrastructure and bloated labour force amongst other hardships that afflict the energy sector (Dubash, 2018).

Lake Turkana Wind Power (LTWP) Project has for the previous twelve months measured frequency and speeds in the area of the project at 80, 60 and 40 metres altitude. Average

speed of the wind in the area of the project has been registered as 11 m/s. These happen to be amongst the highest averages of speed registered across the globe (Olsen & Westergaard-Kabelmann, 2018). LTWP preparatory stage successfully commenced at around end of year 2005 where the main investors (Mr. Dolleman, ANSET Africa Ltd and KP&P) visited the location of the project then signed the MoU for combined cooperation. Later, the partners of the project did request for exclusive rights and they were approved (in the month of April year, 2006) by the national authorities. The rights were for studying the resources of wind in the concerned area. Within that particular year, there was an initial review of the infrastructure by the Dutch Company, Mammoet. That entailed an examination of the way from Mombasa seaport to Lake Turkana for purposes of determining the required effort for the logistical job of transporting turbines and masts (Tukic & Kim, 2015).

Additionally, the initial electricity grid review was conducted. Lastly, there were discussions with KPLC and interest letter for purchasing the generated power by LTWP was then issued. Entrance of the LTWP limited in the power situation of Kenya is going to aid the nation in addressing shortages of power and enhancing further growth of the economy. To attain that objective, the execution of the LTWP proposed is going to give the nation a huge (310MW) and comparatively cheap energy sources (Olsen & Westergaard-Kabelmann, 2018). The purpose of the Turkana Wind Power Project is constructing a power factory (south east of Lake Turkana in the District of Marsabit) for purposes of electricity sharing from the turbines powered by the wind to supply to the nation. The overall power which the project is going to produce is 310MW. The output of power is 30% of the current capacity which is presently available (Kazimierczuk, 2019).

The LTWP development is going to partake a fundamental part in stabilizing the situation of power in the nation. This project is going to contribute a 30% of the overall production of power in the nation of Kenya, a comparatively cheap source of power (2nd Kenya's cheapest power source after the hydro power). The establishment of the 310MW in Kenya is going to mitigate outages of power particularly in the course of dry spell and aid in reducing the heavy dependence of the nation on production of power from diesel and oil generators of power. In its whole production capacity (operating 365 wind turbines, each having a 850kw capacity),

this project is going to establish a key positive effect in the course of the dry spells where the usage of the thermal oil is reduced drastically (Dong & Mori, 2017).

LTWP sponsors have approximated that this project can make 200 million euros through its lifetime of twenty years. The project is going to be significant towards stimulating Kenya's economic growth. The input of power is going to significantly contribute to programme of electrification in Kenya's rural regions that can promote positive impacts in Kenya's rural economy. As well, this project is capable of exporting power to the nations that neighbours Kenya which include, Southern Sudan, Ethiopia, Tanzania and Uganda. This project is going to create opportunities for jobs in the area of the project and even far beyond (Olsen & Westergaard-Kabelmann, 2018). Direct opportunities for jobs are going to be present for high standard professionals that includes consultants, engineers, mechanics and the IT personnel. Indirectly this project is going to establish opportunities for sole employment within the area of the project particularly in the roads rehabilitation and building of the wind park. This project is going to be of value addition to the revenue of Kenya in terms of the tax revenue. LTWP pay a 30% of overall income as the corporation tax. For purposes of facilitating smooth transport of the equipment of wind power, this project is going to better roads from the Town of Marsabit via Kargi to Loiyangalani (Kazimierczuk, 2019).

1.2 Statement of the Problem

Implementation of government projects in rural places are welcomed with great expectations from local communities. According to Shucksmith (2016) government projects should create unlimited economic opportunities to the local communities. In most cases this is occasioned by lying of necessary physical infrastructure along with social amenities that are perquisite to support the project. According to Chambers (2018) community empowerment initiatives must also be factored in throughout the implementation process in order to help the locals discover full potential associated with such project. However, it's regrettable that despite the implementation of similar project such as seven folk's project, local communities are yet to realise the benefits that come along with these government projects (Flora, & Bregendahl, 2015). The government has the responsibility of educating the local communities on the importance and benefits accruing from the projects being implemented in their regions.

There is a high rate of unemployment in Kenya both in the rural and urban areas. The young men and women form the largest demographic section, constituting 68% of total population of which 87% are unemployed (GoK, 2015). This high unemployment rate is a worrying phenomenon since studies have shown that lack of empowerment and economic opportunities especially for youth in marginalised places affects their welfare in respective communities and requires innovative intervention (Lumumba & Odondo 2019). Several researchers have tried to attempt to investigate the relationship between projects and local community social economic welfare. For instance, Kadozo (2018) identifies a robust correlation amid the levels of NGO sponsored projects and living standards. The findings by Rural Development Employment Brief (2010) that shows that infrastructure development happens to be amongst the tolls those are quite powerful for empowerment of the local community (Johnson & Rasker, 2015). Availability of social amenities as a significant factor of development of the economy in the rural regions. Provided the background above, it's therefore quite key to recognize that the structure of policies on rural development to accomplish development in the rural areas entails a wider subject, like entrepreneurship, in contrast to agricultural economics (Mahlati, 2017). Mahlati (2017) contends, developing nations like the SA is not going to give a better life quality to all their people until the deprivation spiral amongst the poor rural people happens to be broken. The strategies of economic growth, creation of jobs and alleviation of poverty like cooperatives and micro enterprises for viable livelihoods and empowerment, is still critical for a policy of socio-economic development purposed for changing communities' lives in the rural regions.

Turkana Wind power project is expected to affect communities' overall economic condition especially through creation of entrepreneurial opportunities. Implementation of government sponsored projects rural places come along with infrastructure development which presents direct and indirect employment opportunities as well as access to financial markets for isolated communities. However, the extent to which such projects have been of beneficial to the local communities still remains largely a subject under inquest (Chambers, 2016). In Kenya, there has been little research conducted to better understand on impact of government sponsored projects on community empowerment. This research thus aims at understanding the economic opportunities that government sponsored projects such as Turkana Wind power Project present to the local marginalised communities.

1.3 Purpose of the Study

The essence of the research was to determine the influence of Turkana Wind power Project on economic empowerment of the community.

1.4 Objectives of the Study

This study was guided by the following objectives;

- i. To examine the influence of employment creation by the Turkana wind power project economic empowerment of the community.
- ii. To assess how the provision of physical infrastructure by the Turkana wind power project has influenced economic empowerment of the community.
- iii. To establish how provision of social amenities by the Turkana wind power project has influenced economic empowerment of the community.
- iv. To establish how revenue sharing by the Turkana wind power project has influenced economic empowerment of the community.

1.5 Research Questions

The study was guided by the following research questions;

- i. How has the Turkana wind power project influenced employment creation as an activity for economic empowerment of the community?
- ii. To what extent has the provision of physical infrastructure by the Turkana wind power project influenced economic empowerment of the community?
- iii. How has the provision of social amenities by the Turkana wind power project influenced economic empowerment of the community?
- iv. In what ways has revenue sharing by the Turkana wind power project influenced economic empowerment of the community?

1.6 Significance of the Study

The findings obtained from this research may go a long way in helping policy makers in comprehending the influence government sponsored Project on economic empowerment of the community. The study results may add great value to already existing knowledge in academic fields and to the scholars as well. Scholars and academicians can use findings and materials generated by this research for further academic re-investigation, this may allow for

greater improvements based on information that will be provided by the study. Other stakeholders interested in this study may find the research materials very useful in economic planning and development process

1.7 Assumptions of the Study

The assumptions made by this study were that the data and information given was of integrity and was not altered in any given way. The study assumed that respondents gave credible and relevant information with no bias. This study also assumed that the respondents had adequate knowledge on the issues being addressed by the study and that the instrument of collecting data was valid and happens to measure the intended constructs.

1.8 Limitation of the Study

The research faced challenges related with securing the respondents time to fill the questionnaires as they have busy schedules. However, the researcher issued the questionnaires by use of drop and pick method to enable the respondents fill the questionnaires at their own convenience.

The research was conducted in a nomadic district that is sparsely populated and thus identifying the location of the population was challenging and some had little will to complete the given questionnaires because of their value for traditions that consider the man as being the sole person who responds towards any concerns that affect the family.

1.9 Definition of Significant Terms

The terms below bear the following meanings in the study;

Economic Empowerment: Economic empowerment is the methods by way of which people or communities are able to take control and possession of their lives through the expansion of their choices (Kabeer, 2017).

Employment Creation: This means any engagements that may be either formal or informal, skilled or not skilled that enables people have financial gains through provision of labour (Pearson, & Seyfang, 2015).

Physical Infrastructure: This are the systems and the infrastructure that facilitates or make it possible for goods, services and people to be transferred from one geographical region to another (Pusiran & Xiao, 2017).

Revenue Sharing: This is the distribution of revenue collected from developmental projects among the stakeholders or communities that are beneficiially of the projects for the provision of essential needs likes security, health and education (Zhattua, 2015).

Social amenities: This refer to places, buildings or infrastructural facilities which are to be shared and to become convergence spots for the local and surrounding communities (Kammen, & Mills, 2019).

1.10 Organization of the study

The research is structured into 5 chapters. The first chapter entails the study's background, the problem statement, the study purpose, the study's limitation, the assumptions, description of the key terms and the organization of the research. Chapter two contains the study's literature review. It provides theoretical review and a conceptual framework that relates to creating a deeper understanding of the study topic. The third chapter entails the methodology of the research from where the design used in research, target population, procedure of sampling, instrument of research in collection of data, instruments' reliability and validity, procedures of collecting data and techniques of analysing the data are outlined. Chapter four encompasses the analyzed data and a summary of the data thematically according to the objectives. Chapter five presents the summary of the findings, discussions, conclusions and recommendation.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter contains a detailed analysis into existing secondary information of the study. This study acknowledges the fact that a researcher cannot perform research without first understanding the literature in the field's (Boote & Beile, 2016). This chapter contains details on influence of government sponsored Project on economic empowerment of the local communities. This section also contains a conceptual framework showing the relationship between the independent and dependent variables

2.2 Economic Empowerment of the Community

The empowerment definition incorporated by WB Group community driven development framework is conformed with the description given in the WB (2002): Empowerment alludes to the expanding of the capabilities and assets of the poor individuals to engage in, influence, negotiate, control as well as hold responsible the institutions affecting their living (Dassah, 2018). According to Wallerstein (2016) Community empowerment refers to the process of enabling communities to increase control over their lives. "Communities" are groups of people that may or may not be spatially connected, but who share common interests, concerns or identities. Empowerment is entrenched in entire method and at every stage of Community-Driven Developments (CDD) outcome chain (Targeted community-driven approaches devolve control and decision-making to poor women and men, which empowers them immediately and directly (WB, 2013) Not only is it an ultimate objective, it's functional as well towards accomplishing the objectives of the other projects towards increasing the income as well as accessibility to the services (Kamat, 2017). Empowerment promotes ownership of the project by the community thereby ensuring its sustainability as the community is better educated and feels that the project belongs to them.

Empowerment of the community as a 5-point range entails these elements: personal action; establishment of the small interest groups; community partnerships, organisations; and political and social action (Labonte, 2016). The range gives a linear and simple interpretation of the complex and dynamic idea and expresses the different employment levels from an individual level to the organisational level by joint (community) action. Every point in the

range may be seen as being a result on itself, and also progression to the other point. Where not accomplished, the result is still or a step back towards the previous point in the scale (Wallerstein, 2018). The scale has been employed by the practitioners of health towards explaining how the empowerment of the community can be optimized to bridge the execution gap as persons advance from personal to joint action (Wallerstein, 2018).

Empowerment of the community is mostly seen as a procedure in literature (a thing applied to achieve a certain objective or goal), for instance, the process of a social-action which facilitates the engagement of individuals, communities and organizations to the objectives of increased community and individual control, social justice, enhance life quality and political effectiveness (Wallerstein, 2018). Nonetheless, it may as well be seen as a result (where empowerment in itself is the objective or goal) and happens to be specific to the involved community, group or individual. The results of empowerment of a community may have quite a long-span frame, mostly taking a number of years to start showing outcomes. This should be a key consideration for designing the promotion programmes of the community (Morley, 2018).

2.3 Employment Creation and Economic Empowerment of the Community

Government sponsored projects play a fundamental role in direct and indirect employment. Being a subject of interest, various scholars have investigated on the influence government sponsored project on employment creation and economic empowerment (Cardullo & Kitchin, 2019). Based on the International Labour Organisation (2017) researches of projects that are labour intensive versus the equipment intensive have demonstrated that the labour-intensive method did have a high rate of absorbency of the unskilled work force (indirect and direct employment). By use of a macro-economic approach to measuring the effect of the labour-intensive projects of investment in the rural regions on the economy of Madagascar, the research approximated differential impacts of equipment versus the employment-intensive methods on the main economic variables, that is, production, foreign trade, consumption, public finance and employment. It is clear from the analysis that the advantage of the approach that is employment-oriented, that is thirty per cent to eighty percent less expensive, establishes 2.5 times more employment, increases the income of the nation and consumption of the household and needs just a 30 per cent of the foreign income utilized by the equipment

(Pearson, & Seyfang, 2017). This results to a rise in the income of the country, saves foreign exchange and thus fails to raise the debt because it is grounded on the demand from the level of the community.

The major goals of the usage of the domestic community employment of the non-skilled and skilled labour in the maintenance and construction of the projects of the government may be categorized into the long and short-run development objectives. Conversely, long-run objective of development targets higher productive employment level with viable growth to fit a rise in the working-age population, alleviation of poverty and encouraging economic development (Herbert-Cheshire, 2016). The study concluded that government sponsored projects in rural places provide the basic foundation on which the superstructure of development and growth can be erected.

Since 1993, the Kenya African Government has undertaken various projects which focuses creation of assets and employment, and also skills and capacity development (Ramaswamy, & Renforth, 2016) having an insight of growing the economy and reducing poverty. The socio-economic condition of the community of Turkana gives an ideal surrounding and the chance for extending a current programme of the government. Funding of the project of nearly \$150 million by the state is therefore supposed to be seen in the wider strategic setting accentuating labor-intensity in offering short-term jobs, and also establishing the basis for creation of the capacities, procedures and the systems for viable employment. Demirguc-Kunt and Beck (2016) contend that the method gives the chance for creation of jobs and relief of poverty in the short-run despite long-run programmes tend to be sustainable according to the support given by the institution.

While investigating the influence of government sponsored project on employment creation in rural places in Malaysia, Huang, Chu, & Chiang, (2018) targeted 1710 heads of households. The research showed, the community trusts, that project has rendered the place open for development as well as expanding the horizons of the community regarding not just comprehension of the developmental matters relating to their region, but as well regarding to acting and perceiving the economic chances. The outcomes as well showed that the members of the community operating on that project employed the wages they received towards

building decent homes a number of them utilizing the skills obtained, buying groceries, paying the school fees to the members of the family, buying livestock and agricultural inputs.

While investigating the capital, labor, and the paradox of state-sponsored development projects in China Hsu and Hsueh, (2016) revealed that implementation of government projects in rural places aimed at addressing unemployment and underemployment through public investment, typically in infrastructure development. For instance, construction industry has great employment absorption potentials. Construction workers represent approximately seven per cent of the global workforce or some 220 million people. A large proportion of these workers are unskilled and, for many, including women, construction is the entry point to paid labour (Neupane, 2016).

While assessing the success of the socio-economic projects over empowerment to the youth in the Municipality of Nakuru, Kenya, Mugure (2017) used the descriptive survey design which entailed both qualitative and quantitative data collection procedures. The study employed interview and questionnaire as its primary method of collecting data. The SME projects have created employment for an average of 8 people. The findings revealed that the government funded youth group engaged in sports project more than the non-government. Sports were identified to be faced with challenges; since most sports project had a trainer, constrained source of sports utilities and lack of capital sports however seem to be a project that increase social interaction. The study further revealed that the youth groups did have revolving money but the major source of that money was contribution from the members. Most of the groups are loan worthy had not defaulted any loan. Just like the other projects the major challenge that face the revolving endowment is the source of funding for that project.

2.4 Provision of Physical Infrastructure and Economic Empowerment of the Community

Various studies have been conducted both globally and locally on the relationship between physical infrastructure development and economic empowerment. For instance, in India Marcellus (2016) did an assessment impact of physical infrastructure development and socio-economic empowerment of local communities. The research used a descriptive research design and it targeted 600 heads of households. Interviews or questionnaires, observation and

focus groups were employed in data collection. The research revealed that laying of physical infrastructure (i.e. telephone communication services, roads and basic amenities such as piped water) occasion by erecting of government project located in rural places indirectly promoted wealth creation though trade development.

Physical Infrastructure gives vital conditions of production like, educational amenities, telecommunication, medical services and roads which enhance economic empowerment of the community in a rural setting (Pusiran & Xiao, 2017). A research on socio-economic enhancement, with constructed roads under the courtesy of government projects, according to the study of the 1662 Ethiopia's villages, discovered that there was a greater impact of accessibility for unenhanced than enhanced roads implying that to bring socio-economic change, presence of some type of the trafficable way is quite significant (Mbaiwa, 2017). Turkana wind project is expected to influence the livestock industry immensely. According to Reddaway (2015) sufficient physical infrastructure increases the productivity and it decreases the costs of production, though it is supposed to expand rapidly to incorporate growth. However, it's regrettable that marginalised areas in Kenya such as Turkana and Wajir areas have suffered from unjust allocations and distributional irregularities, therefore it's quite key to comprehend the main methods that bring livelihood changes of the rural occupants arising from the government sponsored projects in the rural places (Maathai, 2017). Studies conducted in south Africa have shed great insight on the correlation existing between government financed projects and Agri-development in rural areas. Stafford, (2015) investigated the relationship between government sponsored projects and social welfare of local communities in Angola. The findings of the study highlighted that Government construction projects led to improvement on rural roads thus encouraging agricultural productivity.

Investment in physical infrastructure as mandatory prerequisite on government sponsored projects increases productivity in agriculture (Loosemore, 2017). Investments in physical infrastructure does have numerous impacts. Better still if many of the rural homes are committed to many income acts, whether not salaried or salaried, non-agricultural or agricultural, it's normal that accessing public physical infrastructure is also going to impact on the household labour tasks (expanding livelihoods). A survey, for instance identified for

Tanzania a considerable rise in the non-agricultural tasks as the consequence of proper physical infrastructure in the roads occasioned by hydropower plant in Kidato region (Mbaiwa,2016). The findings of this study highlight that erecting of government sponsored projects enhanced rural physical infrastructure which lead to expansion of agriculture by improving productivity, accessibility of the markets to the farmers.

2.5 Provision of Social Amenities and Economic Empowerment of the Community

Social amenities are important for people both in rural and urban communities. Social amenities, or public amenities, refer to places, buildings or infrastructural facilities which are to be shared and to become convergence spots for the local and surrounding communities (Kammen, & Mills, 2019). In India Banerjee, Iyer, and Somanathan, (2015) sought to examine the role social amenities provision such as rural roads water and electricity on community empowerment. Simple random sampling was used to select 85 districts, from where 1041 participants took part. The study found that the availability of facilities such as housing amenities, schools, market, road, centers of health, police station and the community centers contributed directly to the economic growth and development. While investigating the relationship between social amenities provision and economic empowerment of the community in Brazil, Thomson, Kearns and Petticrew (2015) identified, the social amenities present within the community happened to be accessible to every person within that area and regardless the income and social class of an individual doesn't inhibit their access to usage of the amenities. Provision of essential social amenities like good roads, portable water, in the public areas of convenience enhance local economic development.

The importance of social amenities to thrive the rural development in certain regions has specifically been stressed in the fast-developing regions. Yusof Kasim (2017) examined the impact of social amenities provision on Malaysia's economy growth found that the investments in the social physical infrastructure give a significant impact on the country's long-term economic growth. The study also emphasised the essence of infrastructural development in the few thriving sectors within the nation like agriculture, production, service, international trade, and manufacturing sectors. This demonstrates that primary social facilities development like physical infrastructure of roads is key for purposes of increasing the life of the rural communities by providing facilities for use by the communities

(Shamsudin, 2017). Traditionally, the government has been properly aware on, the presence of sufficient social facilities is key for stirring economic growth of a nation. Evidence demonstrates, performance and social facilities rise with the level of income, and the indicators of performance as well better with the level of income (Shamsudin, 2017). Telephone main lines per 1000 individuals, households that have accessibility to water safe for use, and homes that have electricity got applied as pointers of infrastructural coverage whereas the indicators of performance used include unavailable diesel locomotives, water that is not accounted for, paved roads in poor status, losses of the systems of power and the GNP per capital.

The impact of the social amenities provision is as well linked to social services quality particularly in the factor of life quality, health and education of the communities in rural areas in overall. This is in line with the study carried out in Nigeria by Akpan (2016) who found that the social amenities provision is a key part in the strategies of rural development since the development of physical infrastructure is combined with the other factors, including clean water, electricity, nutrition, health, education and agriculture, which afterwards be developed also. Provision of social amenities in rural regions is viewed as being a rounded method in which it would be an answer to social justice and inequality problems for the rural regions.

The importance of the social facilities development for the rural communities is more focused on the growth of the Agriculture sectors which is synonymous with the rural community's major economic resources (Ndulu, 2016). The advancement in the aspect of basic physical infrastructure for rural communities is seen as an accelerator for the growth of the rural communities' economy which in turn will give a positive impact for the quality of life for the community as a whole (Ale et al., 2017). Within that particular time, infrastructural development is viewed as important for rural development in since through the developments, primary amenities like network of communication, electricity and clean water will be brought into the rural areas also (Straka & Tuzova, 2016). The importance of physical physical infrastructure for rural areas has also been discussed by Adeyoye, Yusuf, Balogun & Carim-sanni, (2017). Lacking the basic facilities is a major aspect which can impact on the life quality of the communities in rural areas and also the aspect which may undermine

attempts in improving the transformation of the economy of the communities in the rural areas that in general depend on the resources of agriculture. Bagchi, (2019) who conducted a research on the relation amid economic development and physical infrastructure in India showed, it is key to have basic physical infrastructure for ideal life quality particularly in socioeconomic factor.

Lacking the basic facilities within the rural region impacts negatively on the residents of the village like increasing poverty rates, declining products from agriculture and inhibiting the capacity to go on living their best life (Straka & Tuzova, 2016). All of the negative effects are definitely going to impact on the services of health and alter education accessibility for the village residents. The essence of developing the basic facilities for the rural regions is supposed to be deemed as a section of general development that is supposed to entail increasing services of health, economic growth, education accessibility and development of the community itself. Provisions of good and adequate physical physical infrastructure may maintain a balance in the life quality between the urban and rural regions (Bulus & Adefila, 2016). Provision of the efficient and sufficient primary physical infrastructure happens to be a foundation of best life quality amongst the communities in the rural regions. Primary physical infrastructure development within the rural regions like the roads may be deemed as a communication medium between rural communities with communities from the outside (Gurstein, 2017). Development of effectual primary physical infrastructure is going to improve the accessibility for the devices of social communication, the economy's growth and sustainability of the environment (Loksha & Mahesha, 2016). Authors as well accentuate the essence of development of physical infrastructure to the village residents that is, changing the seclusion and isolation policy.

2.6 Revenue Sharing and Economic Empowerment of the Community

There is need for revenue sharing from government investments. This need for revenue sharing from government investments cannot be overemphasized as indicated by Akai and Sakata (2016) who indicated the management of revenue generated is crucial and central component in the community empowerment. Ansari, Munir, and Gregg, (2018) did an assessment on impact of revenue sharing on community social economic empowerment. The study targeted 134 mining industries with their operations in rural areas. Descriptive survey

method was used to carry out the study. The study established besides provision of local employment to local communities, 25% revenue generated from the initiative was used to further lay physical infrastructure in that promoted trade in the area. While studying the impact of project revenue sharing on economic empowerment of the community at States level in the United States, Sakata and Akai (2018) employed a cross-section design in research. The research used data from the fifty States of the US. Regardless of some other aspects affecting economy's growth, the research did reject the above null hypothesis and attested that sharing of the total revenue from projects by the government gotten by fifty states in US impact positively on the economic growth. Tax is a necessary ingredient for civilization and economic empowerment as stated by Frynas (2015) who examined the impact of revenue generated from government sponsored projects on community social economic development. The findings of the study revealed that revenue gathered from government sponsored projects is key to funding of community development projects and expressed the need to encourage the implementation of such projects that could spur revenue growth, further Hamann, (2015) investigated the impact of revenue generated from projects on sustainable development, The research outcomes showed, revenues raised from government sponsored projects, enabled national government to meet most of its budgetary needs, such as operational cost thus promoting service delivery to citizens. The revenue from government projects is usually used to implement community development projects which aid in improving the living standards of its people.

Revenue from government sponsored projects is essential for needs likes security, health and education as well as other items that smooth operation of the nation (Zhattua, 2015). However, Mahesha (2016) pointed out that the generated money by a state from revenue obtained from taxes is not proved in the development level in Nigeria since unemployment, poverty, low living standards and poor facilities in physical infrastructure is still high. All the social facilities are availed from revenue received from government funded project (Lokesha & Mahesha, 2016). The government is not capable of performing all those activities within the rural region solely, but that may be carried out by the elected individuals in that, it doesn't stop or prevent the government from roles execution through provision of all social facilities like roads construction, provision of museum, electricity, pipe borne water, proper education to the youth, hospitals, stadium etc.

Sharing of revenue is the path and basis to the present development as asserted by hariff Abd Kadir (2017) examined the impact of internal sharing of revenue on development of the rural areas. The methodology used in the research consisted the application of survey design and purposive sampling approach in selecting respondents from Kagera Region in Tanzania. Statistical data and questionnaires were the tools used in the research. Inferential and Descriptive statistics happened to be the tools used in data analysis. The outcome demonstrated, there happens to a positive relation between revenue that is generated internally and social economic development. The research findings nonetheless show, agencies of administration of revenue require reviewing to produce more revenue to the nation.

2.7 Theoretical Framework

The theories that underpinned the study were as presented below;

2.7.1 System Theory

System theory proponents include Walter Buckley and Niklas Luhmann. Buckley (1967) states “The type of a system that we happen to have an interest in might in general be described as being a complex constituent indirectly or directly related within a causal network where every component relates to others in a less or quite stable manner in a certain time period” Bertalanffy (2014) stated main assumptions of the theory of general systems as: system consisting various separate parts or components. The sociologists distinguish that social activities, groups and roles aren’t arranged randomly in societies though happen to be put in clusters. Additionally, every cluster gives fair contribution to society’ welfare in general through satisfaction of the basic wants that are needed by the society.

A group of the interdependent sections, the system components are connected or interdependent, in order that the changes occurring in one section produce the changes to every other section. Change on the basis of females, as a cluster is definitely going to impact on the society and the family. Change and equilibrium: Since the system’s components tend to be interdependent, they happen to only fall in some form of balance or equilibrium, or the steady condition, within their interconnection. Society being a system that is open might never become static. Since it happens to be open to the external effects. The external influences lead to change in the society. There is morphostasis which refers to those effects

that aid the system in maintaining itself while morphogenesis alludes to the processes which aid the system change. Social systems establish very complex systems of mediating that intercede amongst the external forces and the system's action (Ritzer, 2018).

The theory of general system is key in comprehension of the groups interdependency in a certain society. Groups tend to be a section of a society. There has been an observation that the communities which are marginalized are ½ of the population of the world and the implication of this is, changing of their position through empowerment is going to have a substantial effect on the society's development.

2.7.2 Social Change Theory

The social action idea was made popular by Talcott Parsons, George Simmel and Max Weber. The action idea to Anugwom and Okeibunor (2013) sees a person as an important aspect in description of the social item. It's a portion of micro level of sociology where Parker, (2017) states that it relates with day to day life reality, the essence of language, nature and means in which an individual happens to be modelled through membership in a group and their interaction.

Several primary assumptions of action perspectives as stated by Anugwom and Okeibunor (2013) entail: The player in a social position does have goals (ends or oraims) their actions tend to be conducted in the search for; mostly action entails selecting the ways of attaining goals, though where it looks like it doesn't, it's still a possibility for an onlooker to analytically distinguish the goals and means; always a player has several goals, their actions chasing anybody, impact on, and re impacted by, their actions while chasing others, chasing goals and choice of the means mostly happen within conditions, that affect the track; the player mostly makes some assumptions that concern the goals nature and probability of their accomplishment; action happens to be affected not just by the condition, but as well the knowledge of the actor concerning it; the player has modes or ideas of cognition, that influence their selective viewpoint of conditions; the player has an affective nature or some sentiments, that impact on their situations viewpoint and their goals choice; the player has specific values and norms, governing his goals selection and order of the same in terms of preference.

The course of empowering the community is a process of social change that entails creating and organizing a particular community. A collective that has a shared critical attribute that undergoes social discrimination and stigmas obtains the capacity of controlling it that suffers from social stigmas and discrimination acquires ability to control its appropriate surrounding in a better manner and influencing the future of the same. This study will borrow on concepts enshrined in this theory in explaining influence of Turkana Wind power Project social amenities provision on economic empowerment of the community.

2.7.3 Keynesian Theory

The theory behindhand the approximately \$800 billion impetus package may be cloaked in precise mathematics but is ultimately based on John Maynard Keynes's speculative conjecture about human nature. Keynes claimed that people cope with uncertainty by assuming the future will be like the present (Fazzari & Variato 2014). This predisposition exacerbates economic downturns and should be countered by a sharp fiscal stimulus that reignites the "animal spirits" of consumers and investors. In Keynes theory contended that the answer to the big depression happened to be economy stimulation ("inducement for investing") by some mixture of 2 methods: a decrease in the rates of interest (monetary policy), investment of the government on physical infrastructure (fiscal policy). Through the reduction of the rate of interest at which CBK lends funds to the other banks, the government does send a signal to the banks in that they are supposed to reciprocate the same to their clients (Walters, 2009).

Government investments on physical infrastructure puts income to the economy through creation of opportunities for employment, business, demand as well as reversing impacts of the earlier stated imbalance. Governments does get the money for this pending through borrowing money from individuals by issuance of bonds, and since the spending by government exceed volumes of the income from tax which the government happens to receive, this results to a deficit (Frankel & Wallen, 2016).

A core conclusion by Keynesian economics happens to be that, in other instances, no robust automatic approach drives employment to full levels of employment. The conclusion collides with the economic methods that perceive a robust general tendency to the equilibrium. In 'neoclassical synthesis', that joins the Keynesian macro ideas having a micro

basis, the state of the general equilibrium does give room for adjustment of prices to ultimately accomplish the goal. More widely, Keynes looked at his own theory being general, where resources utilization would be low or high, while past economics targeted the same case of whole utilization (Hollings, 2017). The current study will utilise Keynesian theories in explaining the relationship of projects on economic empowerment to the community.

2.7.4 Empowerment Theory

This theory alludes to the encounter of individual growth as well as enhancement of personal definition which happens because of development in proficiencies and capabilities (Staples 1990). The other description implies, empowerment alludes to the combination of the natural aiding systems, initiative and strengths of an individual to bring about the change (Zimmerman & Perkins, 1995). The theory may be used in development of the community through empowerment of individual in that community to developing their community.

As a course in education of leadership, empowerment is viewed as important in development of the community. Mostly, empowerment is inly considered from a psychological and personal insight in interventions of development of the community. That means, practitioners might contend that basically persons get empowered by personal behaviour, attitudes and knowledge (Wilkinson, 2018). The degree in which the developers of the community are adapting the angles in their involvements via education on leadership is discovered. The outcomes on review of literature show, these involvements fail to sufficiently use what people comprehends on empowerment and the role of the same in development of the community (Zimmerman, 2016). Relating to the present research, the theory of empowerment may as well be used in development of the community through involvement of the community members in the processes of planning in an organization. In that manner, the organizers in the community can involve the members of the community in owning the future and direction of their community in the course of provisional times.

2.8 Conceptual Framework

The independent variables in this study have been identified as; employment creation, physical infrastructure development, social amenities provision and revenue sharing while

the dependent variable in economic empowerment. The intervening variable is government policies

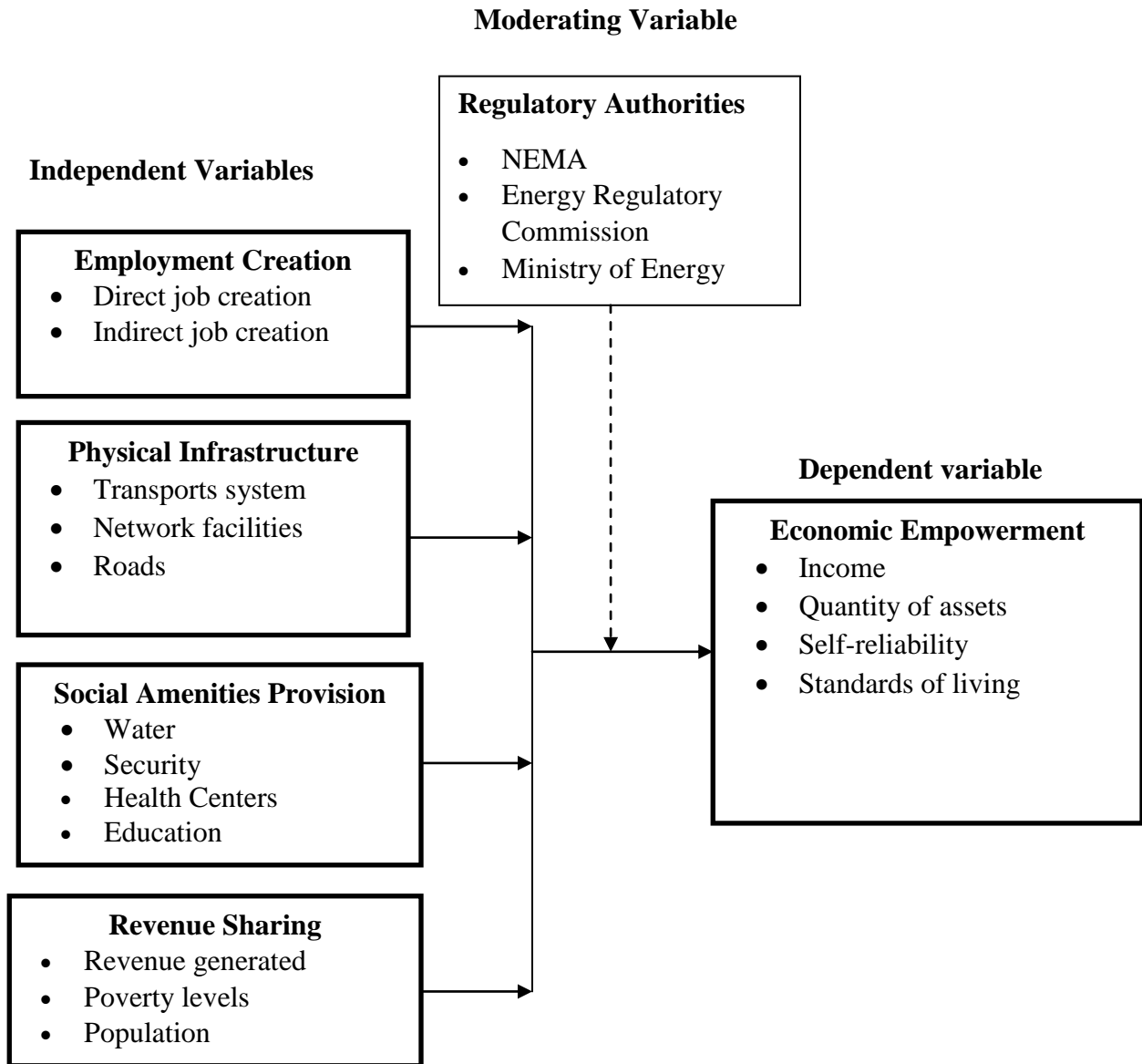


Figure 1: Conceptual Framework

2.9 Knowledge Gap

Table 2.1: Knowledge Gap Matrix

Authors and Year	Focus of the previous researches	Methodologies	Findings	Research Gaps
Huang, Chu, and Chiang (2018)	The influence of government sponsored project on employment creation in rural places in Malaysia	Questionnaires were analyzed through quantitative technique	The community trusts has rendered the place open for development as well as expanding the horizons of the community regarding not just comprehension of the developmental matters relating to their region	This was a global study and its focus was on employment creation alone as a form of economic empowerment.
Mugure (2013)	The success of the socio-economic projects over empowerment to the youth in the Municipality of Nakuru, Kenya	The descriptive survey design which entailed both qualitative and quantitative data collection procedures was used	The findings revealed that the government funded youth group engaged in sports project more than the non-government	Although, this was a local study it focused on both government and non-government projects socio-economic success and was limited to the youths.
Marcellus (2016)	Impact of physical infrastructure	Descriptive and research design was used.	It was revealed that laying of physical	This was a global study and focused on physical infrastructure

	development and socio-economic empowerment of local communities in India	Interviews questionnaires, observation and focus groups were employed	infrastructure indirectly promoted wealth creation through trade development	development as the only form of community empowerment
Yusof Kasim (2017)	Impact of social amenities provision on Malaysia's economy growth companies	Descriptive research approach	Investments in the social physical infrastructure give a significant impact on the country's long-term economic growth	This was a global study and was limited to social amenities provision as the only form of community empowerment
Sakata and Akai (2012)	Impact of project revenue sharing on economic empowerment of the community at States level in the United States	A cross-section research design was used	Sharing of the total revenue from projects by the government gotten by fifty states in US impact positively on the economic growth	The study was a global study and focus was on project revenue sharing alone as the only form of community empowerment.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter focuses on the design that was used in research, population of target, procedure in sampling, methods of collecting data, instruments of data collection, reliability and validity methods of data analysis, operational definition of variables and the ethical issues adapted by the research.

3.2 Research Design

A research design is considered as a scheme for research, dealing with problems that are related to the case study. Kothari (2014) states, research design are a roadmap, a plan and a draft strategy of the conceived investigation for purposes of obtaining solutions to questions under research. There are 3 major research design types which involve exploratory, explanatory and descriptive design (Saunders, Lewis & Thornhill, 2012). Exploratory research design focuses on exploring the questions under research and its intention is not to provide conclusive and final answers to the problems at hand. The primary purpose of explanatory research is to explain why phenomena occur and to predict future occurrences. Descriptive research was applied in describing a population's features under research (Kothari, 2014). The research that was employed was explanatory and descriptive design. The essence is both explanatory and descriptive in which; description happens come before explanation. For explanatory it focuses on explaining instead of just describing an item. It recognizes the real reasons for occurrences of a phenomenon. Descriptive study makes efforts of describing things like characteristics, values, attitudes and behaviour. It does a determination and gives a report of how things happen to be (Mugenda &Mugenda, 2003).

Descriptive design presents or describes the phenomenon, or the phenomenon being investigated (Williams, 2007). It entails measuring a particular variable(s) just like they naturally exist. Kothari (2004) indicated that the descriptive researches are researches that concern description of features of a certain group or person. Khan and Best, 1993 posit that the descriptive design in research happens to be the most relevant in the behavioural science because it aims at finding the aspects linked with specific conditions, outcomes and occurrences of conduct. Yardley (2016) contends that descriptive sstudy aims at obtaining

precise and pertinent information relating to the phenomenon status and whichever possible towards drawing valid conclusions in general from the discovered facts.

3.3 Target Population

The research was carried out in Loiyangalani District, Marsabit County, which is located in Rift valley Province in Kenya. The county of Marsabit is in the previous Kenya's eastern Province. The population held here was 459,785 and within a geographical region of 70,961.2 km². This county neighbours Isiolo to the south and extends to the Ethiopia border further North (GoK, 2016). The population that was targeted by research comprised of 34,175 inhabitants in Loiyangalani District, the County of Marsabit County as determined by Cochran's formula.

3.4 Sample Size and Sampling Procedure

A sampling plan defines the unit of sampling, the procedures of sampling, the sampling and size of the study's sample. A sampling frame defines an outline of all the units of population from where the selection of the sample is to be done. The study employed every element in the target population so as to give a chance to every respondent. This technique ensured that bias was not introduced regarding who were included in the census (Kothari, 2005). To determine the sample size, Cochran's formula was used.

$$n = \frac{Z^2 p q}{d^2}$$

Where:

n= the preferred size of the sample (if the population of target is bigger than 10,000)

Z= the standard normal digress at the needed level of confidence (1.96 for 95%)

P= the proportion in the population of target approximated to have the features that are being assessed

q= 1q

d= the statistical significance level set (0.05)

$$\text{Sample size} = \frac{(1.96)^2 (0.5) (0.5)}{(0.05)^2}$$

$$n = 384$$

The researcher used snow balling sampling procedure to get a sample totalling to 384 respondents comprising of 380 local residents, two provincial administration officers and two civic leaders.

Population Category	Sample Size	Percentage (%)
Local Residents	380	99.0
Provincial Administration Officers	2	0.5
Civic Leaders	2	0.5
Total	384	100.0

3.5 Research Instruments

Barbie and Mouton (2011) describe an instrument of research as being a tool which is applied in data collection required in finding answers to the questions being investigated on. The study used both questionnaire and an interview guide in data collection to target group officials, members and government officials. A questionnaire happens to be an instrument of research that entails a pattern of questions as well other prompts in order to collect the information from the respondents (Mugenda and Mugenda,2013). The study considered use of questionnaires because of its low cost and freeness from bias. The questionnaire incorporated closed and open-ended questions therefore allowing respondents to provide a view of the research objectives. The study adopted the drop and pick an approach, in which questionnaires were provided to respondents and then picked after respondents fill them.

The researcher used an interview guide to gather information from 2 provincial administration officers and 2 civic leaders. An interview guide is characterized by questions that are asked by the interviewer and they help in the gathering of raw data. The answers from these questions help gather qualitative data that aim to meet the research objectives. Interview guides also make the interviews standard as similar questions are asked to the interviews in a simile manner. The interview used probing questions to get more responses from the participants (Erik & Marko, 2011).

3.5.1 Pilot Testing of Research Instruments

Piloting helps one to generate an understanding of the concepts of the people being interviewed (Maxwell 1996). In carrying out, the pilot, the interest of the researcher is to establish if respondents did have a common comprehension of the outlined questions and therefore would give the needed information. Mugenda and Mugenda contend, even an instrument that is constructed very carefully may not be guaranteed obtaining 100% reliable. Pilot testing was done using the test-retest method. In the pilot, 20 questionnaires were administered to respondents in Nairobi County.

3.5.2 Validity of Research Instruments

Validity deals with the precision of study answers to the study question or the strength of the study conclusions. There exists 3 validity types which are face validity, content validity and construct validity. Validity testing, one needs to find out whether the set of questions asked amply to address the study objectives. This should comprise of whether or not how answers are recorded is appropriate. Content validity was applied in this research which measures the level by which collected data by use of particular instruments mirrors a particular content or domain of specific concept. To achieve this, the questionnaire was proofread to ensure that there were no errors both typographical and in form. The feedback from the pre-test formed a basis for reviewing the questionnaire before final administration (Erik & Marko, 2011).

3.5.3 Reliability of Research Instruments

Reliability alludes to the measure of if or if not one gets a similar answer through the use of an instrument for measuring a thing more than once. Simply, the reliability of research is the level by which a method used in research gives consistent and stable outcomes. A specific measure is considered to be reliable if its application on the same object of measurement number of times produces the same results (Bryman & Bell, 2015). Reliability is evaluated repeatedly by using a test-retest reliability approach of the Cronbach Alpha measure of internal consistency (Cooper & Shindler, 2011). For this study purpose, reliability was measured using Cronbach alpha. It tests the internal consistency used to calculate correlation values among responses on an assessment tool. Cronbach's Alpha (α) points out the degree by which the instruments of measurement would be considered as measuring one variable

(Bryman & Bell, 2013). 0.70 is the level acceptable that is the desirable reliability (Bell & Bryman, 2013).

3.6 Data Analysis Techniques

The analysis of the data was done by the application of qualitative and quantitative methods. Document analysis to make comparisons and generalization on the influence of Turkana Wind power Project on economic empowerment of the community was analyzed by the researcher from the records of the sampled local residents as far as their economic activities are concerned and the achievements made within a time frame of five years. Records from relevant ministries were analysed to assess their collaboration with the local community in empowerment.

Quantitative and qualitative method of research were employed in analyzing the collected data. The quantitative study allowed the features of dependent and independent variables and gives room for the longitudinal measures of consequent performance of the study subject (Coakes & Steed, 2009). Analysis of the data was done using the SPSS software, helping to code, enter and analyze the data. Data underwent cleaning and analysis by the use of inferential and descriptive statistics while analysis of inferential statistics was employed in analyzing the study results.

3.7 Data Collection Procedure

The procedure for collecting data involved several steps. First, the researcher made an application for a research license from the National Commission for Science, Technology and Innovation, and permission was sought to conduct the study from the Assistant County commissioner. After permission was granted, one research assistant was recruited and trained on how to carry out the exercise of collecting data.

3.8 Ethical considerations

The researcher obtained a license from the National Commission for Science, Technology and Innovation and permission from the Assistant county commissioner's office before the commencement of data collection. All the research respondents were identified and recruited using the prescribed procedure after being taken through an introductory letter. Moreover,

information and data collected from the respondents was handled with much confidentiality and was employed for purposes of the study only.

3.9 Operationalization of Variables

The study analysed the research objectives into the corresponding independent and dependent variables identifying the indicators for each of the variable and the scale to be used to measure as detailed in table 3.3.

Table 3.2: Operationalization of Variables

Variable	Type	Indicators	Scale
Economic Empowerment	Dependent	<ul style="list-style-type: none"> • Income • Quantity of assets • Self-reliability • Standards of living 	Ratio
Employment Creation	Independent variable	<ul style="list-style-type: none"> • Direct job creation • Indirect job creation 	Ratio
Physical Infrastructure	Independent variable	<ul style="list-style-type: none"> • Transports system • Network facilities • Roads 	Ratio
Social Amenities Provision	Independent variable	<ul style="list-style-type: none"> • Water • Security • Health Centers • Education 	Ratio
Revenue Sharing	Independent variable	<ul style="list-style-type: none"> • Revenue generated • Poverty levels • Population 	Ratio
Regulatory Authorities	Moderating Variables	<ul style="list-style-type: none"> • NEMA • Energy Commission • Ministry of Energy 	Ratio Regulatory

CHAPTER FOUR

DATA ANALYSIS, PRESENTATION, INTERPRETATION AND DISCUSSION

4.1 Introduction

This chapter discusses the interpretation and presentation of the findings obtained from the field. The chapter presents the background information of the respondents, findings of the analysis based on the objectives of the study. Descriptive and inferential statistics have been used to discuss the findings of the study.

4.2 Response Rate

The study targeted a sample size of 384 respondents from which 348 filled in and returned the questionnaires making a response rate of 90.6%.

Table 4.3: Response Rate

	Frequency	Percentage
Returned Questionnaires	348	90.6
Unreturned Questionnaires	36	9.4
Total	384	100

This response rate was satisfactory to make conclusions for the study as it acted as a representative. According to Mugenda and Mugenda (2003), a response rate of 50% is adequate for analysis and reporting; a rate of 60% is good and a response rate of 70% and over is excellent. Based on the assertion, the response rate was excellent.

4.3 Reliability Results

Table 4.5 gives a summary of the reliability results for questionnaire per variable in the study.

Table 4.4: Reliability Results Variables

	Reliability Statistics	No of items
	Cronbach's	
Employment Creation	0.712	6
Physical Infrastructure Development	0.844	7
Provision of Social Amenities	0.758	4
Revenue Sharing	0.790	5
economic empowerment	0.811	7

Table 4.5 illustrates the findings of the study concerning the reliability analysis. In this study, reliability was ensured through a piloted questionnaire that was subjected to a sample of 10 respondents, who were not included in the study. The 10 respondents were selected from the Ngong Hills Community. From the findings, the Cronbach Alpha coefficients for Physical Infrastructure Development, economic empowerment, Revenue Sharing, Provision of Social Amenities, and Employment Creation were 0.844, 0.811, 0.790, 758 and 0.712. These Cronbach Alpha coefficients were above 0.70 implying the instrument was very reliable.

4.4 Background Information

The study commenced by analysing the respondent's background information. Specifically, the information sought includes respondents' gender, age, education, period that the respondents had resided in the area, membership period.

4.4.1 Distribution of Respondents by Gender

Respondents engaged were requested to indicate their gender category. This was sought in view of ensuring fairness in engagement of both male and female respondents. Results are analysed in Table 4.6

Table 4.5: Distribution of Respondents by Gender

	Frequency	Percentage
Male	241	69.3
Female	107	30.7
Total	348	100.0

Results obtained from gender distribution showed that majority (69.3%) of the participants engaged in this study were males whereas 30.7% of the respondents were females. This implies that both genders were equitably engaged in this research and therefore the findings of this research did not suffer from gender biasness.

4.4.2 Period Which the Respodents Had Lived in Turkana

Participants were required to indicate the period they had lived in Turkana. Results are presented in Table 4.7.

Table 4.6: Period Which the Respodents Had Lived in Turkana

	Frequency	Percentage
Less than 10 years	34	9.8
11 to 20 years	127	36.5
More than 21 years	187	53.7
Total	348	100.0

Results show that majority of the respondents (53.7%) had lived in Turkana for More than 21 years, 36.5% of the respondents had lived in Turkana for a period of 11 to 20 years while 9.8% of the respondents indicated Less than 10 years.

4.4.3 Education level

Participant was required to indicate their highest academic qualifications. Results are presented in Table 4.8

Table 4.7: Highest Academic Qualifications

	Frequency	Percentage
Primary	54	15.5
Secondary	143	41.1
Collage	54	15.5
University	66	19.0
Postgraduate	31	8.9
Total	348	100.0

Results show that most of the respondents (41.1%) had Secondary education, 19.0% of the respondents had University education, 15.5% of the respondents had college diploma education or Primary education, whereas 8.9 % of the respondents had attained Post graduate level.

4.4.4 Distribution of Respondents by Age Category

Respondents were required to indicate age category. Results are presented in Table 4.9

Table 4.8: Age Category

	Frequency	Percentage
25 to 35 years	86	24.7
46 to 50 years	142	40.8
Above 51 years	120	34.5
Total	348	100.0

From the study findings, 40.8% of the respondents indicated that they were aged between 46 to 50 years, 34.5% of the respondents indicated that they were aged Above 51 years while 24.7 % of the respondents indicate that they were aged between 25 to 35 years. This implies respondents were fairly drawn across all the age sets.

4.5 Employment Creation and Economic Empowerment

Participants were required to indicate their level of agreement on the influence of Turkana Wind power Project employment creation on economic empowerment of the community.

Table 4.9: Employment Creation and Economic Empowerment of The Community

Statements	Strongly disagree	Disagree	Undecided	Agree	Strongly agree	Mean	Std Dev
Productive use can maximize the economic and social benefits of energy access	-	-	73 (21.0%)	185 (53.2%)	90 (25.9%)	4.05	0.68
Indirect employment opportunities founded by adequate supply on electricity (small scale trade, fishing aquaculture, transports etc)	-	-	48 (13.8%)	152 (43.7%)	148 (42.5%)	4.29	0.69
Direct employment for locals in Turkana Wind power Project in technical and non-skilled labour areas	-	-	58 (16.7%)	131 (37.6%)	159 (45.7%)	4.29	0.74
Employment in other investor opportunities that are implemented along Turkana Wind power Project such as road construction, telecom service provision and medical healthcare.	-	-	36 (10.3%)	190 (54.6%)	122 (35.1%)	4.25	0.63
Increase in Teleworking Woking opportunities as the areas gets linked with the in global internet connectivity.	-	1 (0.3%)	74 (21.3%)	159 (45.7%)	114 (32.8%)	4.11	0.73
The locals small and micro-business, households and farmers have been equipped	-	-	20 (5.7%)	189 (54.3%)	139 (39.9%)	4.34	0.58

with Knowledge and skill on
how to use new-found
electrical and motive power
for profitable enterprise

Composite Mean and Standard deviation

4.22 0.68

Keynote: - denotes zero frequency on this table and all other subsequent tables.

It was agreed that along with implementation of Turkana Wind power project, the local small and micro-businesses, households and farmers have been equipped with knowledge and skill on how to use new-found electrical and motive power for profitable enterprise (Mean = 4.34 std Dev =0.58), Turkana Wind power Project has brought Indirect employment opportunities founded by adequate supply on electricity (small scale trade, fishing aquaculture, transports etc) direct employment for locals in Turkana Wind power project in technical and non-skilled labour areas(Mean = 4.29 std Dev =0.74).

It was revealed that there was employment in other investor opportunities such as road construction, telecom service provision and medical healthcare (Mean = 4.25, std Dev =0.63), the region enjoys increase in teleworking Working opportunities as the areas gets linked with the in global internet connectivity (Mean = 4.11 std Dev =0.73) locals enjoy Productive use of energy access from the plant has helped local residents to maximize the economic and social benefits. The overall mean of responses of 4.22 implied that on average, the respondents were agreeing with the statements relating to employment creation on economic empowerment. These findings concur with the study research by Herbert-Cheshire, (2010) that government sponsored projects in rural places provide the basic foundation on which the superstructure of development and growth can be erected. The findings are also in support of the study research by Demirguc-Kunt and Beck (2016) that government sponsored projects provide a strategic setting for labor development short-term jobs and other systems for viable employment creation.

Turkana Wind power Project gives the chance for creation of jobs and relief of poverty in the short-run despite long-run programmes tend to be sustainable according to the support given by the institution. The local community in Turkana trusts that project has rendered the place

open for development as well as expanding the horizons of the community regarding not just comprehension of the developmental matters relating to their region, but as well regarding to acting and perceiving the economic chances.

4.6 Physical Infrastructure Development and Economic Empowerment

Participants were required to indicate their level of agreement on the influence of physical infrastructure development on economic empowerment of the community.

Table 4.10: Physical Infrastructure Development and Economic Empowerment of the Community

Statements	Strongly disagree	Disagree	Undecided	Agree	Strongly agree	Mean	Std Dev
The project has attracted credit and micro-credit to finance economic activities	-	-	46 (13.2%)	159 (%)	143 (41.1%)	4.28	0.68
Income benefits from access to electricity through new opportunities of work, especially in nonfarm activities	-	-	44 (12.6%)	180 (51.7%)	124 (35.6%)	4.23	0.66
Efforts towards support and upgrading of road infrastructure to enhance market access have increases	-	11 (3.2%)	130 (37.4%)	111 (31.9%)	96 (27.6%)	3.84	0.87
Access to internet and trade opportunities have improved significantly	-	-	127 (36.5%)	138 (39.7%)	83 (23.9%)	3.87	0.77
The project has attracted credit and micro-credit to finance economic activities	-	15 (4.3%)	92 (26.4%)	149 (42.8%)	92 (26.4%)	3.91	0.83
Quality sewage system	-	10	23 (6.6%)	186	129	4.25	0.70

and solid waste disposal systems	(2.9%)	(53.4%)	(37.1%)		
Availability of trade incubation platforms and trade consultancy services in the region.	-	99 (28.4%)	169 (48.6%)	80 (23.0%)	3.95 0.72
Composite Mean and Standard deviation				4.05	0.75

Results show that majority of the respondents agreed that the project has attracted credit and micro-credit to finance economic activities (Mean = 4.28 std Dev =0.68) the project comes along with implementation of quality sewage system and solid waste disposal systems (Mean = 4.25 std Dev =0.70) and that income benefits from access to electricity through new opportunities of work, especially in nonfarm activities (Mean = 4.23 std Dev =0.66).These findings concurs with the study research by Marcellus (2016) Physical Infrastructure gives vital conditions of production like, educational amenities, telecommunication, medical services and roads which enhance economic empowerment of the community in a rural setting.

Further the study revealed that there is an increase in availability of trade incubation platforms and trade consultancy services in the region (Mean = 3.95 std Dev =0.72),the project has attracted credit and micro-credit to finance economic activities (Mean = 3.91 std Dev =0.83), access to internet and trade opportunities have improved significantly (Mean = 3.87 std Dev =0.77) and that efforts towards support and upgrading of road infrastructure to enhance market access have increased (Mean = 3.84 Std Dev =0.87). The overall mean of responses of 4.05 implied that on average, the respondents were agreeing with the statements relating to physical infrastructure development on economic empowerment. These finding are in support of the study research by Stafford, (2013) Government projects led to improvement on rural roads thus encouraging agricultural productivity.

Results revealed that laying of physical infrastructure in Turkana (i.e. telephone communication services, roads and basic amenities such as piped water) occasioned by erecting of government project located in rural places indirectly promoted wealth creation though trade development. Turkana wind project has influenced the livestock industry

immensely and that sufficient physical infrastructure increases the Aquaculture productivity and it decreases the costs of production, though it is supposed to expand rapidly to incorporate growth. The findings of this study support conclusions by Mbaiwa (2003) that erecting of government sponsored projects enhanced rural physical infrastructure which lead to expansion of agriculture by improving productivity, accessibility of the markets to the farmers.

4.7 Provision of Social Amenities and Economic Empowerment of the Community

Participants were required to indicate their level of agreement with the following statements relating to Turkana Wind power Project social amenities provision on economic empowerment of the community.

Table 4.11: Provision of Social Amenities and Economic Empowerment of the Community

Statements	Strongly disagree	Disagree	Undecided	Agree	Strongly agree	Mean	Std Dev
There is improved access to quality healthcare provision as opposed to pre project conception.	-	-	88 (25.3%)	133 (38.2%)	127 (36.5%)	4.11	0.78
Improved security and reduced capital distraction through improved lighting from Wind power Project	-	-	107 (30.7%)	123 (35.3%)	118 (33.9%)	4.03	0.80
Along with comes other complementary infrastructure services, such as transport, water supply and ICT services	-	-	125 (35.9%)	183 (52.6%)	40 (11.5%)	3.76	0.64
Increased education benefits through higher earnings for children living in electrified	-	-	96 (27.6%)	136(39.1%)	116 (33.3%)	4.06	0.78

households that have higher educational attainment.

Composite Mean and Standard deviation	3.99	0.75
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Results show that majority of the respondents agreed that there is improved access to quality healthcare provision as opposed to pre project conception (mean =4.11 std dev =0.78), increased education benefits through higher earnings for children living in electrified households that have higher educational attainment (Mean = 4.06 std Dev =0.78). These findings concur with the study research by Shamsudin, (2017) Akpan (2014) who found that the social amenities provision is a key part in the strategies of rural development since the development of physical infrastructure is combined with the other factors, including clean water, electricity, nutrition, health, education and agriculture.

Further the study revealed that residents enjoyed improved security and reduced capital distraction through improved lighting from wind power project (mean = 4.03 std dev =0.80) along which comes other complementary infrastructure services, such as transport, water supply and ICT services (Mean = 3.76 std Dev =0.64). The overall mean of responses of 3.99 implied that on average, the respondents were agreeing with the statements relating to social amenities. These finding are in support of the study research by Bagchi, (2013) development social infrastructure is key for ideal quality life particularly in socioeconomic development. Further Bulus & Adefila, 2014) adds that developing the basic facilities for the rural regions is supposed to be deemed as a section of general development that is supposed to entail increasing services of health, economic growth, education accessibility and development of the community itself.

“Provision of essential social amenities like good roads, portable water, in the public areas of convenience enhance local economic development in Turkana, social facilities development like physical infrastructure of roads is key for purposes of increasing the life of the rural communities by providing facilities for use by the communities. Provision of the efficient and sufficient primary physical infrastructure happens to be a foundation of best life quality amongst the communities in the rural regions; Primary social infrastructure development within the rural regions like the roads enhanced communication medium between rural communities with communities from the outside”. (Interviewees)

These findings are in support of the study research by Gurstein, (2013), Development of effectual primary physical infrastructure is going to improve the accessibility for the devices of social communication, the economy’s growth and sustainability of the environment.

4.8 Revenue Sharing and Economic Empowerment of the Community

Participants were required to indicate their level of agreement with the following statements relating to influence revenue sharing on economic empowerment of the community.

Table 4.12: Revenue Sharing and Economic Empowerment of the Community

Statements	Strongly disagree	Disagree	Undecided	Agree	Strongly agree	Mean	Std Dev
Pumping of energy utilisation key revenue sharing sectors in Turkana such as agricultural and aquaculture have increased.	-	-	51 (14.7%)	173 (49.7%)	124 (35.6%)	4.21	0.68
Convenience in market timings afforded by cost effective cold storages powered by local Wind power Project.	-	-	100 (28.7%)	125 (35.9%)	123 (35.3%)	4.07	0.80
Increase in plant investment	-	-	75 (21.6%)	143 (41.1%)	130 (37.4%)	4.16	0.75
Turkana Wind power Project have decreased production costs in an existing production process	-	36 (10.3%)	70 (20.1%)	123 (35.3%)	119 (34.2%)	3.93	0.98
Revenue sharing for Government through taxation of trade activities in the area	-	48 (13.8%)	12 (3.4%)	172 (49.4%)	116 (33.3%)	4.02	0.96
Composite Mean and Standard deviation						4.08	0.83

Results show that majority of the respondents agreed that pumping of energy utilisation is key revenue sharing sectors in Turkana such as agricultural and aquaculture have increased. (Mean = 4.21 std Dev =0.68) and that Turkana Wind power Project had led to Increase in plant investments in the area (Mean =4.16 std Dev =0.75). These findings concurs with the

study research by Mahesha (2016) pointed out that the generated money by a state from revenue obtained from taxes is not proved in the development level in Kenya since unemployment, poverty, low living standards and poor facilities in physical infrastructure is still high.

Further the study revealed that Turkana Wind power project has enhanced convenience in market timings afforded by cost effective cold storages powered by local Wind power Project (Mean =4.07 std Dev =0.80) Revenue sharing for Government through taxation of trade activities in the area (Mean = 4.02 std Dev =0.96) and that Turkana Wind power Project have decreased production costs in an existing production process (Mean = 3.93 std Dev =0.98). The overall mean of responses of 4.08 implied that on average, the respondents were agreeing with the statements relating to revenue sharing on economic empowerment. These finding are in support of the study research by Akai and Sakata (2002) revenue generated from the rural projects can be used to further lay physical infrastructure in that promoted trade in the area.

“Sharing of revenue is the path and basis to the present development, there happens to be a positive relation between sharing of revenue that is generated internally and social economic development on area where rural projects are erected”. (Interviewees)

These findings concur with the study research findings by Hamann, (2015) revenues raised from government sponsored projects, enabled national government to meet most of its budgetary needs such as operational cost thus promoting service delivery to citizens. The overall mean of responses of 4.08 implied that on average, the respondents were agreeing with the statements relating to economic empowerment.

4.9 Economic Empowerment of the Community

Participants were required to indicate their level of agreement with the following statements relating to economic empowerment.

Table 4.13: Statements Relating to Economic Empowerment of the Community

Statements	Strongly disagree	Disagree	Undecided	Agree	Strongly agree	Mean	Std Dev
Turkana Wind power project, factors in productive use component in order to promote economic sustainability	-	12 (3.4%)	55 (15.8%)	154 (44.3%)	127 (36.5%)	4.14	0.80
Through productive use the local communities can maximize the economic and social benefits of energy access	-	-	57 (16.4%)	154 (44.3%)	137 (39.4%)	4.23	0.71
In most of the families the annual income has increased significantly	-	46 (13.2%)	9 (2.6%)	155 (44.5%)	138 (39.7%)	4.11	0.97
The locals have strengthened self-economic reliability since project conception	-	48 (13.8%)	54 (15.5%)	125(35.9%)	121 (34.8%)	3.92	1.03
Increased morale in business ventures by locals	-	24 (6.9%)	32 (9.2%)	169 (48.6%)	123 (35.3%)	4.12	0.84
Access to Quality health care services	-	-	78 (22.4%)	173 (49.7%)	97 (27.9%)	4.05	0.71
Quality of educational systems in Tukana region	-	36 (10.3%)	133 (38.2%)	76 (21.8%)	103 (29.6%)	3.71	1.00
Composite Mean and Standard deviation						4.04	0.87

Results show that majority of the respondents agreed that through productive use electricity from the power plant the local communities can maximize the economic and social benefits

of energy access (Mean = 4.23 std Dev = 0.71), Turkana Wind power project, factors in productive use component in order to promote economic sustainability in the region (Mean = 4.14 std Dev = 0.80) Increased morale in business ventures by locals (Mean = 4.12 std Dev = 0.84). These findings concur with the study research by According to Shucksmith (2010) government projects should create unlimited economic opportunities to the local communities.

Further the study revealed that in most of the families the annual income has increased significantly (Mean = 4.11 std Dev = 0.97), the locals have strengthened self-economic reliability since project conception (Mean = 3.92 std Dev = 1.03), access to quality health care services have increased (Mean = 4.05 std Dev = 0.71) and that residents are Tukana region enjoying Quality of educational systems than before project conceptions (Mean = 3.71 std Dev = 1.00). The overall mean of responses of 4.04 implied that on average, the respondents were agreeing with the statements relating to economic empowerment. This finding concurs with the study research by Flora, & Bregendahl, 2015). The government has the responsibility of educating the local communities on the importance and benefits accruing from the projects being implemented in their regions.

4.10 Correlation Analysis

In order to determine the relationship between the variables under study, the study used Karl Pearson's product moment correlation analysis. The findings were as shown in the table 4.12 below.

Table 4.14: Correlation Analysis Between Wind Power Project and Economic Empowerment of the Community

		Economic empowerment	Employment creation	Physical infrastructure development	Provision of social amenities	Revenue sharing
Economic empowerment	Pearson Correlation	1	0.422**	0.673**	0.539**	0.384**
	Sig. (2-tailed)		.000	.000	.000	.000
	N	348	348	348	348	348
Employment creation	Pearson Correlation	0.422**	1	0.307**	0.285**	0.051
	Sig. (2-tailed)	.000		.000	.000	.345
	N	348	348	348	348	348
Physical infrastructure development	Pearson Correlation	0.673**	0.307**	1	0.368**	0.172**
	Sig. (2-tailed)	.000	.000		.000	.001
	N	348	348	348	348	348
Provision of Social Amenities	Pearson Correlation	0.539**	0.285**	0.368**	1	0.320**
	Sig. (2-tailed)	.000	.000	.000		.000
	N	348	348	348	348	348
Revenue sharing	Pearson Correlation	0.384**	0.051	0.172**	0.320**	1
	Sig. (2-tailed)	.000	.345	.001	.000	
	N	348	348	348	348	348

From the finding in the table above, the study found that there was a weak positive correlation between Employment creation and economic empowerment of the community as shown by correlation factor of 0.422. This positive relationship implied that an increase in government sponsored projects would lead to an increase the economic empowerment of the community.

The study also found a strong positive correlation between Physical infrastructure development and economic empowerment of the community as shown by correlation factor of 0.673. This positive relationship implied that an increase in development of physical infrastructure through government sponsored projects would lead to an increase in economic empowerment of the community.

Further the study found a moderate strong positive correlation between provision of social amenities and economic empowerment of the community as shown by correlation factor of 0.539. This positive relationship implied that an increase in provision of social amenities through government sponsored projects would lead to an increase in the economic empowerment of the community.

Further the study found a weak positive correlation between Revenue sharing and economic empowerment of the community as shown by correlation factor of 0.384. This positive relationship implied that an increase in revenue sharing by government sponsored projects would lead to an increase in economic empowerment of the community.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This study sought to determine the influence of Turkana wind power project on economic empowerment of the community; a case of Loiyangalani, Marsabit County Kenya. The specific objectives were to examine the influence of employment creation, provision of physical infrastructure, provision of social amenities and revenue sharing by the Turkana wind power project on economic empowerment of the community.

5.2 Summary of Findings

The following is the summary of findings;

5.2.1 Employment Creation and Economic Empowerment of the Community

Results show that implementation Turkana Wind power project has brought direct and indirect employment opportunities such as small-scale trade, fishing aquaculture and transports services. The government sponsored projects such as Turkana Wind power project provided the basic foundation on which the superstructure of development and growth can be erected. Turkana Wind power project gives the chance for creation of jobs and relief of poverty in the short-run despite long-run programmes tend to be sustainable according to the support given by the institution and that local community in Turkana trusts that project has rendered the place open for development. These findings concur with the study research by Herbert-Cheshire, (2010) that government sponsored projects in rural places provide the basic foundation on which the superstructure of development and growth can be erected.

Further the findings revealed that small and micro-business, households and farmers in the regions have been equipped with knowledge and skill on how to use new-found electrical power for profitable enterprise. The region has also experienced an increase in employment opportunities in other investor opportunities that are implemented along Turkana wind power project such as road construction, telecom service provision and medical healthcare, the region enjoys increase in teleworking working opportunities as the areas gets linked with the in global internet connectivity and that locals enjoy productive use of energy access from the plant has helped local residents to maximize the economic and social benefits. These finding

are in support of the study research by Demirguc-Kunt and Beck (2016) that government sponsored projects provide a strategic setting for labor development short-term jobs and other systems for viable employment creation.

5.2.2 Physical Infrastructure Development and Economic Empowerment of the Community

Results show that Turkana wind power has attracted credit and micro-credit to finance economic activities the project comes along with implementation of quality sewage system and solid waste disposal systems and that income benefits from access to electricity through new opportunities of work, especially in nonfarm activities. There have been efforts towards support and upgrading of road infrastructure to enhance market access have increases, there is an increase in availability of trade incubation platforms and trade consultancy services the region and that Turkana wind power project has attracted credit and micro-credit to finance economic activities. The findings are in line with the research by Marcellus (2016) Physical Infrastructure gives vital conditions of production like, educational amenities, telecommunication, medical services and roads which enhance economic empowerment of the community in a rural setting.

Results show that Turkana wind power has enhanced access to internet and trade opportunities, laying of physical infrastructure in Turkana (i.e. telephone communication services, roads and basic amenities such as piped water) occasion by erecting of government project located in rural places indirectly promoted wealth creation though trade development. Turkana wind project influence the livestock industry immensely and that sufficient physical infrastructure increases the Aquaculture productivity and it decreases the costs of production, though it is supposed to expand rapidly to incorporate growth and that erecting of government sponsored projects enhanced rural physical infrastructure which lead to expansion of agriculture by improving productivity, accessibility of the markets to the farmers. These finding are in support of the study research by Stafford, (2013) Government projects led to improvement on rural roads thus encouraging agricultural productivity.

5.2.3 Provision of Social Amenities and Economic Empowerment of the Community

Descriptive results show that there is improved access to quality healthcare provision as opposed to pre project conception. Local people enjoy increased education benefits through higher earnings for children living in electrified households that have higher educational attainment, developing the basic facilities for the rural regions is supposed to be deemed as a section of general development that is supposed to entail increasing services of health, economic growth, education accessibility and development of the community itself. The residents enjoyed improved security and reduced capital distraction through improved lighting from wind power project along with other complementary infrastructure services, such as transport, water supply and ICT services. These findings concurs with the study research by Shamsudin, (2017) Akpan (2014) who found that the social amenities provision is a key part in the strategies of rural development since the development of physical infrastructure is combined with the other factors, including clean water, electricity, nutrition, health, education and agriculture.

Results show that provision of essential social amenities like good roads, portable water, in the public areas of convenience enhance local economic development in Turkana, social facilities development like physical infrastructure of roads is key for purposes of increasing the life of the rural communities by providing facilities for use by the communities. Provision of the efficient and sufficient primary physical infrastructure happens to be a foundation of best life quality amongst the communities in the rural regions. Primary social infrastructure development within the rural regions like the roads may be deemed as a communication medium between rural communities with communities from the outside. Further Bulus & Adefila, 2014) adds that developing the basic facilities for the rural regions is supposed to be deemed as a section of general development that is supposed to entail increasing services of health, economic growth, education accessibility and development of the community itself.

5.2.4 Revenue Sharing and Economic Empowerment of the Community

Results show that majority of the respondents agreed that pumping of energy utilisation is key revenue sharing sectors in Turkana such as agricultural and aquaculture have increased. Descriptive results also showed that sharing of revenue is the path and basis to the present development, there happens to a positive relation between sharing of revenue that is generated internally and social economic development on area where rural projects are erected, revenues raised from government sponsored projects, enabled national government to meet most of its budgetary needs such as operational cost thus promoting service delivery to citizens. These finding concur with the study research findings by Hamann, (2015) revenues raised from government sponsored projects, enabled national government to meet most of its budgetary needs such as operational cost thus promoting service delivery to citizens.

Further the study revealed that Turkana wind power project has enhanced convenience in market timings afforded by cost effective cold storages powered by local wind power project, revenue sharing for government through taxation of trade activities in the area and that Turkana Wind power Project have decreased production costs in an existing production process. These finding contradict the study research findings by Mahesha (2016) pointed out that the generated money by a state from revenue obtained from taxes is not proved in the development level in Kenya since unemployment, poverty, low living standards and poor facilities in physical infrastructure is still high.

5.2.5 Economic Empowerment of the Community

The study revealed that in most of the families the annual income has increased significantly, the locals have strengthened self-economic reliability since project conception, access to quality health care services have increased and that residents are Tukana region enjoying Quality of educational systems than before project conceptions. The government has the responsibility of educating the local communities on the importance and benefits accruing from the projects being implemented in their regions. These findings concurs with the study research by According to Shucksmith (2010) government projects should create unlimited economic opportunities to the local communities. Results show that majority of the respondents agreed that through productive use electricity from the power plant the local

communities can maximize the economic and social benefits of energy access. Turkana wind power project, factors in productive use component in order to promote economic sustainability in the region, Increased morale in business ventures by locals. This finding concurs with the study research by Flora, & Bregendahl, 2015). The government has the responsibility of educating the local communities on the importance and benefits accruing from the projects being implemented in their regions.

5.3 Conclusions

The study concludes that the region experienced an increase in direct and indirect employment opportunities. Turkana wind power project led to increase in investor opportunities in areas such as road construction, telecom services and medical healthcare. Currently at Loiyangalani, Agri-business activities, trade consultancy services and trade incubation platforms have increased; the project has also attracted micro-credit institutions that finance economic activities all which provide employment opportunities in the region.

The study concludes that physical infrastructure implemented along Turkana wind power project provides better conditions necessary for economic production. Such include telecommunication services education, medical services and transport network which enhance economic empowerment of the community in a rural setting. Laying of physical infrastructure in Turkana i.e. telephone communication services, roads and provision of basic amenities such as piped water has indirectly promoted wealth creation though trade development.

The study concludes that provision of social amenities alongside implementation of Turkana wind power project has positive significant influence on economic empowerment of the community, that residents of Turkana region enjoyed improved security and reduced capital distraction through improved lighting from wind power project. The study concludes that provision of social amenities provision is a key part in the strategies of rural development since the development of physical infrastructure is combined with the other factors, including clean water, electricity, nutrition, health, education and agriculture.

The study concluded that revenue sharing by the Turkana wind power project has a positive influence on economic empowerment of the community; revenue generated from the rural

projects can be used to further lay physical infrastructure in that promoted trade in the area. The study concludes that Turkana wind power project has enhanced convenience in market timings afforded by cost effective cold storages powered by local wind power project and that revenues raised from government sponsored projects, enabled national government to meet most of its budgetary needs such as operational cost thus promoting service delivery to citizens.

5.4 Recommendations

1. The study recommends that Government entities implementing project at rural places must come up with sensitisation programme to the local communities on all economic indirect economic opportunities that locals can take advantage of. Again, the oversight committee should consider providing direct employment to the locals through their CSR programme.
2. Regardless of nature of the project, the implementation team must adequately ensure that supportive physical infrastructure is implemented along the project. This is based on the revelation that local communities can also take the advantage of the physical infrastructure for economic development.
3. To ensure sustainability and efficiency in operations, the oversight team must ensure that all proper social amenities such as security provision, quality healthcare water, rescue teams must be made available.
4. Given that the local communities appreciated more upon comprehending the benefits that come along with the projected project, it is therefore important for the implementation committee to ensure that the process of revenue sharing is made transparent and accountable.

5.5 Suggested Areas for Further Research

It is recommended that this study be replicated in other areas to confirm as to whether the same positive relationship exists. Additionally, further studies based on the conclusions and findings of the study may be conducted for government sponsored projects and its effects on stakeholder's involvement, political influence and its funding influence.

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APPENDICES

Appendix I: Introductory Letter

Dear respondent:

I am a University of Nairobi student undertaking a Degree of Master of Arts in Project Planning and Management. I am carrying out a study on “**INFLUENCE OF THE TURKANA WIND POWER PROJECT ON ECONOMIC EMPOWERMENT OF THE COMMUNITY, KENYA**”. To achieve this, you have been invited to participate in this academic research by filling out the questionnaire. The information obtained will be used for academic purposes only and will remain confidential. The results obtained from the survey will be presented in summary form and will not disclose any individual or company information.

Thank you for your participation.

Annah Mbaika Kii

L50/6073/2017

Appendix II: Research Questionnaire For Respondents

Provide the following information. Kindly tick appropriately

Section A: Demographic Information

1. Indicate your gender
 Male () female ()

2. How long have you lived in this place
 Less than 10 years ()
 11 to 20 years ()
 More than 21 years ()

3. Indicate your highest Educational qualifications
 Primary ()
 Secondary ()
 Collage ()
 University ()
 Post graduate ()

4. Indicate your Age category
 25 to 35 years ()
 36 to 45 years ()
 46 to 50 years ()
 Above 51 years ()

Section B: Employment Creation and Economic Empowerment of the Community

5. Indicate your level of agreement with the following statements relating to influence of Turkana Wind power Project employment creation on economic empowerment of the community (1=Strongly Disagree, 2= Disagree, 3= Moderate 4=Agree 5=Strongly agree)

Statements	1	2	3	4	5
Productive use can maximize the economic and social benefits of energy access					
Indirect employment opportunities founded by adequate supply on electricity (small scale trade, fishing aquaculture, transports etc)					
Direct employment for locals in Turkana Wind power Project in					

technical and non-skilled labour areas					
Employment in other investor opportunities that are implemented along Turkana Wind power Project such as road construction, telecom service provision and medical healthcare.					
Increase in Teleworking Working opportunities as the areas gets linked with the in global internet connectivity.					
The locals small and micro-business, households and farmers have been equipped with Knowledge and skill on how to use new-found electrical and motive power for profitable enterprise					

6. How else does Turkana Wind power influence employment creation for economic empowerment of the local communities?

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Section C: Physical infrastructure development and Economic Empowerment of the Community

7. Indicate your level of agreement with the following statements relating to the influence of Turkana Wind power physical infrastructure development on economic empowerment of the community (1=Strongly Disagree, 2= Disagree, 3= Moderate 4=Agree 5=Strongly agree)

Statements	5	4	3	2	1
The project has attracted credit and micro-credit to finance economic activities					
Income benefits from access to electricity through new opportunities of work, especially in nonfarm activities					
Efforts towards support and upgrading of road infrastructure to enhance market access have increases					
Access to internet and trade opportunities have improved significantly					
The project has attracted credit and micro-credit to finance					

economic activities					
Quality sewage system and solid waste disposal systems					
Availability of trade incubation platforms and trade consultancy services the region.					

8. How else does Turkana Wind power influence physical infrastructure development for economic empowerment of the local communities?

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Section D: Provision of Social Amenities and Economic Empowerment of the Community

9. Indicate your level of agreement with the following statements relating to Turkana Wind power Project social amenities provision on economic empowerment of the community. (key 1=Strongly Disagree, 2= Disagree, 3= Moderate 4=Agree 5=Strongly agree)

Statements	5	4	3	2	1
There is improved access to quality healthcare provision as opposed to pre project conception.					
Improved security and reduced capital distraction through improved lighting from Wind power Project					
Along with comes other complementary infrastructure services, such as transport, water supply and ICT services					
Increased education benefits through higher earnings for children living in electrified households that have higher educational attainment.					

10. How else does Turkana Wind power influence social amenities provision for economic empowerment of the local communities?

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Section E: Revenue Sharing and Economic Empowerment of the Community

11. Indicate your level of agreement with the following statements relating to influence of Turkana Wind power Project revenue sharing on economic empowerment of the community. (1=Strongly Disagree, 2= Disagree, 3= Moderate 4=Agree 5=strongly agree)

Statements	5	4	3	2	1
Pumping of energy utilisation key revenue sharing sectors in Turkana such as agricultural and aquaculture have increased.					
Convenience in market timings afforded by cost effective cold storages powered by local Wind power Project.					
Increase in plant investment in the area					
Turkana Wind power Project have decreased production costs in an existing production process					
Revenue sharing for Government through taxation of trade activities in the area					

12. How else does Turkana Wind power enhance revenue sharing?

.....

Section F: Economic Empowerment of the Community

13. Indicate your level of agreement with the following statements relating to economic empowerment (1=Strongly Disagree, 2= Disagree, 3= Moderate 4=Agree 5=Strongly agree)

Statements	5	4	3	2	1
Turkana Wind power project, factors in productive use component in order to promote economic sustainability					

Through productive use the local communities can maximize the economic and social benefits of energy access					
In most of the families the annual income has increased significantly					
The locals have strengthened self-economic reliability since project conception.					
Increased morale in business ventures by locals					
Access to Quality health care services					
Quality of educational systems in Tukana region					

Thank you

Appendix III: Interview Guide

1. Has the Lake Turkana Wind Power (LTWP) Project enhanced employment creation in Loiyangalani, Marsabit County Kenya and in what areas? And if not, what has led to lack of employment creation from the project?
2. Has the Lake Turkana Wind Power (LTWP) Project provided physical infrastructure in Loiyangalani, Marsabit County Kenya and in what areas? And if not, what has led to lack of provision of physical infrastructure from the project?
3. Has the Lake Turkana Wind Power (LTWP) Project provided social amenities in Loiyangalani, Marsabit County Kenya and in what areas? And if not, what has led to lack of provision of social amenities from the project?
4. Has the Lake Turkana Wind Power (LTWP) Project provided revenue to Loiyangalani, Marsabit County Kenya? And if not, what has led to lack of revenue provision from the project?
5. What other challenges do you think are experienced by Lake Turkana Wind Power (LTWP) Project in its economic empowerment?
6. What recommendations do you make that can enhance the effectiveness of the Lake Turkana Wind Power (LTWP) Project so as to have an impact on the economic empowerment of the locals?

