

FACTORS INFLUENCING DEVELOPMENT OF ROADS INFRASTRUCTURAL PROJECTS IN INFORMAL SETTLEMENTS IN KENYA: A CASE OF EMBAKASI EAST CONSTITUENCY IN NAIROBI COUNTY

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CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Population growth in Nairobi County has been in increase despite anticipation of its reduction due to the devolution form of governance, which separates the central government to that of the county as enacted in Kenya's new constitution. With county governments in place, it was easy to expect a decreased migration of people to the major towns due to employment opportunities created at county levels. A continued escalation of urban population growth and mushrooming of unplanned settlements has continued to impact on shelter and quality of life mostly in informal settlements thus becoming a big challenge to the administration of the day. These unplanned settlements have changed not only the whole pattern of land use in urban centers, but also their economic use. According to Amnesty international publication (2009), people have lived in informal settlements in and around Nairobi since the formation of the city but the laxity and continued failure of government's response in investing in roads projects in these settlements has worsened the situation.

In comparison with other major towns in the country, Nairobi receives a larger percentage of people from rural areas in relation to the already existing infrastructure, most of them being low income earners who settle in informal settlements due to cheap or affordable housing. Because of this, informal settlements have been turned into overcrowded villages with no access road networks, storm water drainage, street/security lights, solid waste management, and water and sanitation systems. According to Ziblim (2013), sluggishness by the days administration on addressing the dynamics of informal settlements, lack of a comprehensive national legislative and policy frameworks in support of slum upgrading negatively impacts on set goal of an improved informal settlement by year 2030. In the World Bank report (2011), it is noted that targets to improve living conditions for people living in urban environment can be well-defined in the urban planning strategy without which the dreams of an improved informal settlements remains farfetched. Basic infrastructural projects such as roads and other basic amenities which lacks in informal settlements remains paramount.

Lack of roads network in Informal settlements is not only a challenge in Nairobi County but also in other major towns in Kenya and worldwide. Many governments have reviewed their informal settlements upgrading policies by moving away from eradication of settlements policies to provision and participatory policies that enable communities participate fully in development of roads infrastructural projects in their settlements (Khalifa, 2014). According to the argument of prof. Ngau in a regional conference on upgrading of informal settlements, development of social housing by Kenyan government to control growth of unplanned settlements became a challenge due to high number of rural urban migration (Ngau, 2012). This resulted to the state turning to the main approach of eradication of informal settlements by demolition despite the uproar of human rights organization and international communities on violation of human rights by a government whose mandate is to offer protection and uphold human dignity.

Development of planned settlements, slum upgrading through the support of various international agencies such as the World Bank and USAID was later used as an alternative of demolition. Despite these efforts, the nature of informal settlements continued to be deplorable and in 2010, the government introduced Kenya Slum Upgrading Program (KENSUP) whose mandate was to construct low cost houses in informal settlement although a similar approach under S & S.S had failed. However, the focus of this paper will be to assess factors influencing development of road infrastructural projects under Kenya Informal Settlements Improvement Project (KISIP) whose overall objective was meant to transform how residents of informal settlements lived. This was by investing in development of roads networks and improving security of tenure based on plans developed in consultation with the community (World Bank report 2010).

KISIP started way back in year 2011 with intention of linking and improving roads network in informal settlements with their neighbours. For its success, the Kenyan government outsourced funds from World Bank, Sida, and AFD (World Bank report, 2011). Kayole Soweto is one of the informal settlements set to benefit from KISIP funding for development of roads infrastructural projects within the settlement. It had been approved for formalization by the defunct City Councils general purpose committee back in 1999 (minutes of proceedings, 1999) but until to date the settlement struggles with challenges of informality. According to a report by Matrix consultants on inventory of Nairobi Slums (1998), this area of study is found in Embakasi East constituency, and borders Jacaranda grounds and Embakasi barracks. It was settled through the first president's order in 1976 and was settled in 1979. Defunct Nairobi City Council and the military team of surveyors did the surveying of the land and later on in 1981, squatters from Kwa Gitau village in

Westland's moved to this area through political influence with intention of grabbing the land they had settled in (Matrix consultancy, 1998). More squatters settled in the land from different parts of Nairobi increasing the population in the settlement thereby straining limited infrastructural projects such as roads. However, community living in this informal settlement provides labor and services to their neighborhood that are of middle class earning citizens that may not be available in the formal sector just like citizens of any other informal settlement in the world would do (Syagga *et al*, 2001).

This settlement is divided into seven villages commonly known as zones. Some of these villages were named as per the squatter's origin. Muoroto zone comprises of squatters who came from Kamukunji constituency along jogoo road next to Machakos bus station. Kibagare zone was named after an informal settlement in Kangemi. This village was demolished and squatters settled here. Gitau zone was named after an elderly man who was an opinion leader for the group. Muthaiga zone was the most favorable area for settlement and is situated next to Kayole S&S.S. its inhabitants are people who were evicted from Embakasi barracks land. Central zone was named after being settled in the middle of all other zones. They also came from Embakasi Barracks. Shauriyako a slogan of "take it or leave it" was the most unfavorable area for settlement because of its rocky topography. Bahati zone which means 'luck' was allocated to people who had remained landless.

For many families living in informal settlements, these areas are not just temporary residences but homes for many decades. Therefore, the need to put in place proper roads network for accessibility become of great importance (Lall *et al*, 2005). According to Muteta, Ngoi and Sheuya (1998), any attempt to improve living conditions in informal settlements come with fear from the community members. This fear is as a result of lack of proper engagement, shedding light on intended project benefits and involvement in decision making. Therefore, for successful projects implementation, the designs of the projects must be well known to all parties/stakeholders and their participation promoted at all stages of project cycle to avoid rejection (Oesu, 2001).

1.2 Statement of the problem

People living in informal settlements have always been marginalized in budget allocation for development of infrastructural projects even though the government have been given mandate to use equalization funds to work on basic service projects such as roads, water and electricity (Laws

of Kenya, rev. ed. 2010). Kayole Soweto village is not an exception from other informal settlements. Vulnerability of forceful evictions through demolitions and unexplained fires is so real that people living in Kayole Soweto live in constant fear. This miserable living condition is also experienced in other informal settlements in the world (human settlement report, rev.2010). Empowering slum communities is an effective way of transforming their neighborhood through community participation in design and construction of road infrastructural projects in their village. This strategy is an initiative under KISIP in which the government came up with a five year program to improve informal settlements through development of road networks by popular participation (Ministry of Housing, 2012). Since inception of KISIP in 2010, its impact on the ground has been long overdue. This is the reason why the researcher established factors that could have influenced development and completion of roads infrastructural projects in this area which will also be a reflection of other villages that have been set to benefit from the same program. Development of infrastructural project will also ensure that the strategy to improve living condition of informal settlements as per Millennium Development Goals (MDG) is achieved. This goal states that basic sanitation and significant improvement in the lives of slum dwellers will have been achieved by year 2020. But in Nairobi County, challenges of roads infrastructure, water and sanitation projects especially in informal settlement is evident that we are yet far in realizing them.

Comparing Nairobi's informal settlements including those that are in Embakasi east constituency with Dakar's informal settlements, Gulyani, Talukdar and Jack (2010) observed that provision of infrastructural projects in Dakar exceeded Nairobi by 70 percent. This is an indication that the government has not invested in planning and development of infrastructural projects its informal settlements.

Community participation is also key in implementation of infrastructural projects in informal settlements. According to Tadesse (2006), looking at communities as a passive recipients of government's projects or services and disregarding them in local decision making processes often leads to unawareness of the role people are supposed to play in their implementation. For this reason, participation of the community becomes a missing link for completion of such projects in informal settlements as experienced in Kisumu Manyatta informal settlement. According to Otieno (2016), lack of community participation in hiring laborers for roads infrastructural project under KISIP in Manyatta was the reason as to why the project hit a snag. Failure by project team to pass proper information to the community influenced negatively their support (Otieno, 2016) which can also be reflected in other settlements.

Project funding determines whether projects remain on paper or planning stage or are implemented fully. Roads infrastructural projects in informal settlements are large intensive and their cost remains high when corruption creeps in as highlighted by Okoth (2017). He argues that cartels are behind high cost of roads works and they particularly targets donor funded projects which have strict guidelines on compensation for people affected by projects (PAPs). They usually certify compensation for non-existence PAPs thereby inflating the cost of construction and project timeliness lengthened (Okoth 2017). The study investigated extent in which corruption, inflation and timely disbursement of funds affects development of roads infrastructural projects in informal settlements.

Imparato and Ruster (2003) stated that, “to believe in a democratic culture is to oppose a mentality of submission or dependency”. This statement can be challenged since people living in informal settlements exercises their democratic space but they are enticed by the culture of dependency and apathy. Some even resists paying for services rendered to them by the government due to this culture of dependency which leads them to believe services offered by the government is supposed to be free (Tomlinson, 1998). Because they believe in this manner, it becomes difficult to engage them without giving them handouts leading to the whole philosophy of public participation meaningless. Accessing informal settlements or what Brown (2006) refers to as street life is usually difficult for outsiders due to the culture of dominance. Visitors are usually seen as people who have come to disrupt their way of life which might be a challenge to implementation of roads infrastructural projects in such areas.

More of the challenges are also likely to be faced by implementers of roads infrastructural projects in informal settlements if community leaders residing in the community become a force against the projects. According to Pearce and Robinson (2011) observation, a major challenge which leaders might face is their ability to galvanize commitment among all the stakeholders in order to achieve the set goal. Success of development of roads infrastructural projects in informal settlements would rely heavily with the influence of both political and local leaders by the way they mobilize their subjects. Some of the political leaders would see the project as a political mileage whereas others might see it as a threat to their political ambitions or dethroning the current leadership.

1.3 Purpose of the study

The purpose of the study was to establish factors influencing development of roads infrastructural projects in informal settlements in Kenya: A case of Embakasi east constituency Kayole Soweto informal settlement in Nairobi County.

1.4 Objectives of the study

The study is guided by the following research objectives:

- 1) To assess how community participation influence development of roads infrastructural projects in informal settlements in Embakasi East Constituency.
- 2) To determine how community culture influence development of roads infrastructural projects in informal settlements in Embakasi East Constituency.
- 3) To assess the extent to which community leadership influence development of roads infrastructural projects in informal settlements in Embakasi East Constituency.
- 4) Establish how project funding influence development of roads infrastructural projects in informal settlements in Embakasi East Constituency.

1.5 Research questions

The study seeks to answer the following research questions:

1. How does community participation influence development of roads infrastructural projects in informal settlements in Embakasi East Constituency?
2. How does community leadership influence development of roads infrastructural projects in informal settlements in Embakasi East Constituency?
3. To what extent does community culture influence development of roads infrastructural projects in informal settlements in Embakasi East Constituency?
4. How does project funding influence development of roads infrastructural projects in informal settlements in Embakasi East Constituency?

1.6 The significance of the study

Findings of this study may be useful to coordinators of KISIP both at county and national level, to enable them take necessary action towards timely development and completion of roads infrastructural projects in informal settlements. Through this study, KISIP team and Consultants firms contracted by the government to do planning for informal settlements in the country may

learn the importance of community or stakeholder's participation. Nairobi County Assembly can be enabled to legislate/formulate policies on development of infrastructural projects such as roads in informal settlements and other related areas by use or borrowing ideas from the research paper and for further research.

1.7 Basic assumption of the study

In this study, it was assumed that data collection was to be done smoothly and respondents would not be influenced whatsoever to give biased information. It was also assumed that community participation, community culture, community leadership and project funding had influenced development of roads infrastructural projects in Nairobi's Kayole Soweto informal settlement.

1.8 Limitation of the study

Limitation that was likely to occur was the respondents' reservation in giving personal and other information required during data collection. The researcher overcame this by assuring respondents information given was to be treated with confidentiality, and the questionnaire was designed in a manner that was easy to fill.

1.9 Delimitation of the study

Embakasi East constituency is a vast area with four wards namely Mihango Ward, Embakasi Ward, Savanna Ward and Utawala Ward. This study was delimited to Savanna ward, kayole Soweto informal settlement scheme where efforts to develop roads infrastructural projects have been under way since year 2012 surpassing the targeted contractual time for five years. This informal settlement had also been approved for formalization and development of infrastructural projects back in the year 1999 by Nairobi City Council committee of 1999 (General purpose committee, 1999) and up to date, full formalization benefits have not been realized.

1.10 Definitions of significance terms used in the study

Community Culture: This is collection of norms, beliefs, expectations and values learned and shared by community and transferred from generation to generation. In informal settlements it is characterized by fear of change and ownership of their structure.

Project funding: Finances for project implementation which can be gotten from various sources such as international organizations, government, Non-Governmental Organizations etc. Inflation, corruption and untimely disbursement of funds increase the cost of projects and it is a threat to their completion.

Community leadership: This involves a person who influences people in a community either negatively or positively towards community development. Such a person commands a following either through political influence or through government's administration. Community leadership in informal settlements faces challenges since those settlements seem to have been segregated from resource allocation by various governments.

Community participation: This encompasses purposeful interaction of a community or beneficiaries of a project and different categories of stakeholders who include international actors, national politicians, local government leaders in collaboration with private sectors and contractors who form part of this relationship. For these interactions to take place, proper communication channels must be put in place and also identify cartels or forces against the intended purpose of participation devising ways to address that challenge. Wide spread poverty can influence community participants to demand handouts or allowances in order to participate in community projects and this might affect the whole projects.

Development of roads infrastructural projects in informal settlements: This is a process of opening up informal settlements through construction of roads infrastructure for easy access by both human and vehicles in and out of those settlements. It is mainly undertaken by Kenya Informal Settlements Improvement Program (KISIP).

Informal settlements: These are settlements inhabited illegally by squatters whose housing structures have been constructed without planning. They lack adequate infrastructures including access road network, water and sanitation or other basic necessities to support human settlements.

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1.11 Organization of the study

This study is organized into five chapters. Chapter one comprises of introduction, background of the study, problem statement, purpose of the study, objectives of the study, research questions, significance of the study, basic assumptions of the study, limitation of the study, delimitation of the study, definition of significant terms used in the study and organization of the study. Chapter

two reviews literature on factors influencing completion of roads infrastructural projects in informal settlements and factors affecting implementation and completion of those projects. It further elaborates concepts of community participation, culture, leadership, project funding, legal challenges and development of roads infrastructural projects in informal settlements. This chapter discusses theoretical **framework and summary of the literature review**.

Chapter three comprises research **methodology**, **research design**, **target population**, **sampling procedures**, **methods of data collection**, **validity of the instruments used**, **reliability of the research findings** and **data analysis techniques**.

Chapter four presents the **data analysis**, **presentation**, **interpretation and discussion**. **The results** is organized based on the **themes of the study** that is, factors influencing development of roads infrastructural projects in informal settlements influenced by community participation, culture, leadership and project funding.

Chapter five is the last chapter and comprises **summary of findings**, **conclusions** and **recommendations** that are based on the project themes.

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CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter reviews literature related to the study based on themes drawn from objectives. This includes community participation and development of roads infrastructural projects in informal

settlements, community culture and development of roads infrastructural projects in informal settlements, the extent to which community leadership influences development of roads infrastructural projects in informal settlements and project funding and its influence on development of roads infrastructural projects in informal settlements.

2.2 The concept of development of roads infrastructural projects in informal settlements.

Informal settlements are a shameful feature of poverty characterized by inaccessibility due to lack of roads network and it is an inherited inequality not only in Kenya but also in African continent. Definition of informal settlements by Huchzermeyer and Karam (2006) states that, they are settlements of urban poor developed through unauthorized occupation of land and they are unhealthy overcrowded and lacks basic infrastructure such as road networks. According to the report of Republic of Kenya Government (2000), in over half a decade's time, unprecedented population increase in urban areas has been witnessed in the country. This have become a big challenge in the country economies for urban areas leading to essential infrastructures and services such as roads, water and sanitation unattainable. For this reason, more and more town dwellers in Kenya live in overcrowded informal settlements lacking essential amenities to support a minimum level of survival. By 1999, population of town dwellers in the country had increased significantly in affirmative that in Kenya, one out of every three residents were living in urban areas and it was predicted that it was going to double by the year 2015 (Government of Kenya, 1999). This becomes a wakeup call to the day's administration to start investing heavily in transforming urban informal settlements.

Proliferation of informal settlements and slums in major towns of our country have been caused majorly by rate of urbanization and lack of ability by urban economies to develop and match the pace of proliferation. According to Huchzermeyer and Karam (2006), informal settlements such as Kayole Soweto remains in the same state of un-development because of policies made during colonial era which were more in support of segregation. Moreover, slum clearance policy supported by policies made after independence have not supported equitable and defined land distribution for urban development to enable informal settlements like Soweto to be in better state. In address of these challenges, initiation of a slum upgrading program in Kenya (KENSUP) in year 2004 together with informal settlement's improvement Program (KISIP) in the year 2011 by the Kenyan government, in collaboration with other stakeholders focused on improving the state in which slums and informal settlements dwellers found themselves in (Government of Kenya, 2004).

This entailed opening up of informal settlements by construction of roads network, facilitating, promoting, and providing tenure security, improvement of housing and development of projects that generate income.

This study looked into roads infrastructural projects funded under KISIP by the Kenyan Government by the support of World Bank, through International Development Association, (IDA), Swedish International Development Cooperation Agency (Sida) and the Agency Française de Développement (AFD). KISIP development objective have been to upgrade standards of living in informal settlements and is expected to be achieved through land tenure security and development of roads infrastructure based on plans agreed on with all interested groups. KISIP runs under the Ministry of Lands Housing and Urban Development and is implemented in close partnership with participating Counties (SIDA, 2006).

According to the World Bank report (2011), KISIP approach in development of roads infrastructure in informal settlements is keen on crosschecking social and environmental issues by identifying and addressing them in all its components, and in particular during investments in infrastructural projects. To achieve this, an Environment and a framework for Social Management (ESMF) and Policy Framework for Resettlement (RPF) is supposed to be prepared and approved. The key objective of the RPF and ESMF is to provide a framework for systematic and effective identification and management of environmental and social issues for the program. The ESMF provides guidance on integrating of environmental issues into project design and implementation while the RPF provides guidance on mitigating impacts that are likely to happen due to land acquisition and displacement. The ESMF/RPF forms part of the financing agreement between Kenyan government and World Bank (SIDA, 2006).

Development of roads infrastructural projects through KISIP target improvement of existing roads and construction of new path walks, bicycle lanes, street lighting, water and sanitation systems among many other projects as per the felt needs of targeted community. Poyry Consultants in association with GA Consultants and Pamoja Trust have been contracted under the Consultancy services. Their mandate being socio-economic surveys, roads infrastructure upgrading plans, development of RAP and detailed engineering designs in informal settlements in Nakuru and Eldoret (Muraguri, 2011). Prior to the undertaking of RAP, the proposed projects were screened for both environmental and social impacts. The screening identified limited displacement of

structures built on the way leaves and likely temporal livelihood disturbance as possible impacts. This RAP has been prepared in conformity to the policy on involuntary resettlement by ⁷⁴ World Bank's Operational Policy (OP 4.12), Policy Framework on Resettlement (RPF), 1999 act on environmental management and coordination and other Kenyan government policies and laws dealing with resettlement issues (Syagga, 2011) .

There has been a growing need not only for housing in urban centres, but also for basic infrastructural projects. Imperato and Ruster (2003) argues that, for social stability and economic growth, availability of roads infrastructure and decent shelter becomes essential precondition. They states and I quote, "land free of slums will be a land free of hatred." Though the government has tried several strategies to resolve challenges of slums/informal settlements, construction of roads infrastructural projects through KISIP seems to be the most effective. For example, with KENSUP strategy, most people who benefits from constructed houses ends up selling or leasing them moving to the next open space thus creating a new informal settlement. With the strategy of improvement and construction of roads infrastructural projects, accessibility inside these settlements is achieved thus encouraging structure owners to construct more permanent buildings thereby cutting the government cost of constructing houses unlike KENSUP strategy.

2.3 Community Participation and development of roads infrastructural projects in informal settlements

Many scholars have conducted research to theoretically justify and define general concept and practice of community participation or what is commonly known as public participation. Public participation, citizen participation or stakeholder participation is used interchangeably but uses similar concepts and principles (IFC, 2007). For example, community involvement has its roots in participation approaches which in Kenya were quickened by 1960s political debates whereby Swahili slogan 'Harambee' was coined. It is a common believe that participation by the community is a sure way of them benefiting from any development projects targeted in transforming their lifestyle. Therefore, community involvement in decision making is considered as an approach that leads to sustainable development because opinions and views of those affected are taken into consideration.

Policy makers and Non-Governmental organizations widely accepts that for projects to succeed specially those that aims in transforming informal settlements, community participation is

paramount (Brent, 2004). Efforts by researchers have been directed to community participation more so in the aspects of roads infrastructural projects coming up with interesting findings in support of participation, question being why roads infrastructural projects in informal settlements are taking long to complete especially in Kayole Soweto despite involvement of community right from its inception (Barr, 2004).

A study done in Korogocho informal settlement on community participation by UNICEF (2012) revealed that their participation in projects was key in completion of the projects in the stipulated time. A brief profile of the settlement by Kost and Nohn (2011) reveals that Korogocho informal settlement is found on North-east of Nairobi, 11 km from the capital city and it is made up of eight villages. These villages are characterized by poor living standards and lack of accessibility due to lack of proper infrastructure such as roads and footpaths (Lewis, 2014). Korogocho name was derived from a Swahili word meaning shoulder to shoulder indicating high densities, congestion and structures built with all manner of materials without any proper planning. According to Kost and Nohn (2011), this village is a most popular one in Nairobi extending over 50 hectares and it benefited from infrastructural upgrading projects (KSUP).

The major idea of UNICEF study in the area was to find out the need for full involvement of community participants who were to be affected in one way or another by the intended project. Consequently, the aim of the study was also to find out community participation influence in development and completion of roads infrastructural projects and investigate their influence in the identification, planning, execution and monitoring of the said projects. According to a report by UN-Habitat (2003), it was revealed that participation by community in project identification, designing, execution, monitoring and evaluation is key to completion and sustainability of projects in the community. It was also revealed that involving project beneficiaries in the design phase had a positive impact in completion of project's identification and its implementation hence confirming a noticeable relationship between stakeholder's involvement in designing phase and end results of every development projects. Payne (2001) had similar observations that the more involvement of the community in the execution phase increases probability of timely completion of projects. He further argued that participation in project monitoring enabled timely project completion thus implying positive effect on participatory monitoring. Overall, the study concluded that Korogocho community participated in the initiation, planning, execution, and monitoring phases of the project and their participation positively affected completion of the projects especially roads and drainage

system. Consequently, the researcher observed that, there was need to maintain clear and open communication between stakeholders and the community to ensure the latter participate fully for a successful project completion (Payne, 2001).

Payne (2001) identified four strategies for enhancing community participation in roads development projects. In the first strategy he proposed that project teams should collaborate with local people to decide on course of action and encourage individual members to use different communication methods to air their opinions. Secondly, in project planning community member's opinions should be incorporated for collective action in planning activities such as work sequencing, scheduling, budgeting, staffing, and getting approvals from government agencies. Thirdly, during project execution community must be engaged in performing quality assurance tests, drafting progress reports, managing communications, reporting project risks, and managing the schedule of the development project. Lastly, project team and decision-makers should promote participatory monitoring by accepting feedback from the community and anticipating project issues after handing over. This tracking and control would help the project team deliver the desired product on time, cost, and with sufficient resources. Since the study was delimited to Korogocho slums, it recommends further study in other development projects and strategies that have been put in place to ensure community participation (Fransen, 1999).

In comparison with Korogocho Village, community participation and leadership in development of roads infrastructure projects proved to be of great importance in Huruma informal settlement. In the year 2009, Pamoja Trust a Non-governmental Organization showed the need of involving people to be at forefront in improvement of their neighborhood and environment in their village. This organization started by involving residents from Huruma in the year 1999 (Pamoja Trust, 2009). Targeted resident gave priority of housing upgrade and the organization mobilized people to start a saving cooperative by the name "Muungano". This cooperative was to enable them negotiate with the defunct City Council of Nairobi to enable them develop permanent structures on land they were in occupation of for several years (Pamoja Trust, 2009). Therefore, this is a most notable testimony of how important community participation at each level of decision making can result to a successful upgrading effort.

Huruma residents were engaged frequently to give their opinions on an improved infrastructure and were encouraged to do enumeration themselves in order to know the number of the people to

be affected by the project. More engagement was done and stakeholders agreed on project designs and style of identifying affected groups proving the importance of cooperation between different stakeholders in a participatory process. Agreement signed in 2001 stated that defunct city council of Nairobi would surrender land to six settlements was in Huruma (Alder, 1995). It was considered that participatory upgrading process in approval of infrastructural project plans and supervision of construction, was to be overseen by both the City Council and Pamoja Trust technical team. Exchange programs were also organized whereby representatives of Huruma residents visited South Africa and India to acquire knowledge on how the two countries efforts in upgrading informal settlements by use of technologies or alternative methods.

Community participation enabled Huruma community and other stakeholders to accommodate every resident in their settlement and cost of construction of each unit was reduced drastically by application of “sweat equity”. This idea of “sweat equity” was to engage project beneficiaries in giving self-labor for 80 hours to the project. Skilled labor was gotten from community whereas donor partners financed the project and service connections such as water and sewerage. Designs of improved houses gave ways for horizontal construction which became convenient for residents of the informal settlement to own units above each other. The way they allocated those units was agreed upon by the community to avoid gentrification. The areas saving scheme managed payment of loans and construction thus becoming a good practice for upgrading informal settlements however, it has got its challenges. Targeted community allowed their structures to be demolished to create space for both roads and other relevant infrastructural development as they relocation in temporary shelters (Muraguri, 2011).

Communication strategy in development of roads infrastructural project in informal settlements is paramount in ensuring managers of the project collaborate with local people to determine priorities. This is a process of transferring information to a receiver from a sender with intention a receiver will understanding the information. People create and manage social realities through communication, understanding who they are and creating relationships amongst themselves thereby building institutions such as marriage institution (Narura, 2006). The purpose of communication in development and completion of roads infrastructural projects in informal settlements is to seek community opinions through consultations and decision on course of action taken. Moreover, targeted community and change agents co-learn creating understanding, sharing knowledge and working together to form action.

Weihric, Vannice and Koontz (2010), view that communication relates a project to its external stakeholders and through it, project team becomes aware of their needs and concerns. Repressive political environment always inhibits free flow of communication. Change agents can use different methods of communication namely, informal, oral, written and currently used technological methods like e-mail, teleconference, voice mail, etc. Looking at information and technology system, it is easy to note that communication methods have evolved rapidly. However despite this advancement, project teams must be aware of the most effective method to use in informal settlement in order to sell the idea of infrastructural projects in a more understandable way. This project paper will establish the most effective way project managers and team can use to communicate to stakeholders. They must inspire to lead, communicate the vision, mission, goals and objective in the most eloquent way.

Figuring out how to communicate with opinion leaders or people who are capable of exerting social influence in informal settlement is of great importance since they are more likely to be listened to by people living in these settlements. Therefore, it is of great importance to identify such people as key champions of the project communication strategy (Kotler and Armstrong, 2012). In a participative and democratic environment, upward communication is seen ideal since it is primarily non directive. It's typical means are appeal and complain procedures, suggestion boxes, setting objectives jointly, systems for complain, grapevine, open door policy, interviews, questionnaires, group meetings and ombudsman (Weihrich, *etl* 2010). For a successful development of roads infrastructural projects in informal settlements, communication to the beneficiaries on the progress and benefit thereof encourages community involvement. Effective communication improves understanding of an issue, encompasses participation and reduces resistance to change. Words evoke different responses and are interpreted depending on past experiences and therefore choice of words is crucial for effective communication and community participation.

Since independence, Kenya had stayed for a long time without a clearly defined and codified land policy (ministry of lands, 2007). This encouraged emergence of land cartels and land bankers especially in Nairobi County. This research paper will establish whether land cartels have any significant influence on development and completion of roads infrastructural projects in informal settlements. Apart from land cartels, informal service providers like water vendors have a special impact on informal settlements and the way they apply business practices knowledge of the

surroundings cannot be ignored (McGranahan and Satterthwaite, 2006). A similar view is shared by Gandy (2006) who observed that these small scale private service providers have control of water supply and market places in the informal settlements and they would resist any attempts to change the status quo of informal settlements. They usually apply violence and intentionally vandalizes water pipes system with intention of discouraging engineer's attempts to increase water network to these settlements. Kiyu (2014) refers these private service providers as slum oriented business men and women who run small businesses involving repackaging of products in very small quantities commonly known as "kadogo economy" to suit the residents.

Kenya's effort to reduce wide spread poverty started way back in 2004 through a recovery strategy for implementation of investment programme (IP-ERS) as per government's progress report of 2004/2005 (Republic of Kenya, 2006). This report defined poverty as being unable to exploit resources and touches many situations characterized by multiple lack of essential needs because of political, economic and social process. Access to education, health and resources that are productive such as credit and land are things that poor people are disadvantaged with. They have no power to changes that occur in various organizations besides being unable to affect major decisions made in those organizations or institutions. Through IP-ERS, Kenyan government focused on upgrading the living conditions of the urban poor mostly found in informal settlements and as per the views of Bodewes (2005), their poverty is a great neglect in the current governance. Although much has been written about the causes of poverty, there seems to be little improvement in addressing it since many programs are focused on "doing something for the poor but not with the poor" (Bodewes, 2005). Researcher will sets out to establish possible influence of poverty in development and completion of roads infrastructural projects in informal settlements and mitigation measures that can be put in place.

Urban poverty is a multidimensional phenomenon which is quite challenging in addressing it. Many deprivations is faced by the urban poor which include; lack of employment chances given by different organizations, enough housing and services, healthy environments etc. Unexpected or unprecedented growth of urban areas with increased poverty and inequality of societies especially in countries that are developing poses a great challenge for governments of developing countries. This social inequalities is clearly seen in informal settlements where governments have invested less inform of roads infrastructure development and service as proliferation and expansion of these settlements or slums continue (UN-HABITAT, 2006). Poverty creating factors in these

settlements include social breakdown for example existence of female headed household, health, inflation, sharing of cost especially in education, demographic which is fragmentation of land, homes breakdown, unemployment and family sizes becoming large. (Kessy and Tostensen 2008).

2.4 Community culture and development of roads infrastructural project in informal settlements.

Researcher looked into both organization culture and societal culture practices and their influence to development of roads infrastructural projects in informal settlements. What people say, think or do can be inferred as culture. According to Schein (1992), culture for organization is the shared values and beliefs, behavioral patterns organization members commonly share. This involves knowledge transmission and learning, patterns of behavior for long time and members' belief. Organization culture does not change fast and it is fairly stable therefore, changing it may take a very long time. For it to change, it will require behavioral change, symbols, values and myths. The management must be in the fore front to symbolize the organizational culture they want to promote. Cole (1997) argued that, organization's culture and practiced values usually affects the relationship it has with stakeholders, its employee, general community and the way it defines its attitude toward ethical issues, safety and quality. The researcher will attempt to find out what behavioral patterns influences development of roads infrastructural projects in informal settlements, keeping in mind that some behavioral patterns (handouts or tokens) have been inculcated by organizations working in these settlements to remain relevant. This behavioral pattern makes it difficult to engage communities to voluntarily participate in projects.

Organizations that have strong and positive culture becomes very strong and successful since this culture focuses on agreed interest of constructing an organization that is unified through shared habits beliefs and traditions (Mintzberg and Quinn, 1991). For example, Japanese companies are reputed for having a strong and positive organizational culture which they practice by emphasizing on a unique company philosophy based on policies like open communications, group working, looking into employee welfare, customers respect on their requirements and quality of product concern for employee welfare. These cultural norms have enabled Japan to build itself into one of the most powerful trading nation in the world despite its physical geographical limitations and relatively low population. However, for roads infrastructural development projects in informal settlements, strong and positive organizational culture is not enough for its success because one is not only dealing with physical geographical limitations but a diverse human behavior. Therefore,

alertness is needed especially where community targeted has more power to influence and invested interest. One must understand and take keen interest in the culture of such stakeholders by engaging and consulting regularly thereby involving them in governance and decision making (Pearce and Robinson, 2011).

As discussed earlier, a culture of dependency and apathy have been developed in most of informal settlements by some of the organization working there by way of giving handouts and other free gifts. Although financial responsibility for development of roads infrastructure in informal settlements is borne by the government, community participation in both attending meetings, monitoring and evaluation of the project through a committee is required. In most cases, they would require handouts failure to which they would not cooperated due to a culture of dependence. According to Tomlinson (1998), some residents of informal settlements resists payment for services because they belief that public services are supposed to be heavily subsidized or offered by government for free and are inculcated in a culture of non-payment of public services.

According to Brown (2006), it is difficult for a newcomer to access street life due to a culture of dominance in this area. The most controlling group dominates space and culturally-controlled environments where businesses take space through violence or the facts of being born there commonly known as “wazaliwa”. This is a reflection of informal settlements’ streets whereby this culture and power results in inclusion and exclusion of certain groups thus hindering any attempts of change. To overcome these challenges of street culture in Korogocho informal settlements UN-HABITAT (2011) initiated projects for street upgrading which was planned as part of an activity for the larger Korogocho infrastructural development. The focus was to implement some initial physical changes in some of the streets while advancing on building community’s trust in order to penetrate street culture of the whole village.

Mathare informal settlement share similar challenges with Korogocho and Viwandani informal settlements as per study done by APHRC among its residents. In this study it was revealed that, cultural beliefs in these settlements influence expectant mothers not to eat some foods as guided by beliefs and myths. The foods they avoided during infancy and pregnancy because of fear of causing slurred or delayed speech in children. A slogan that states that one fruit a day will keep one away from visiting a doctor hardly works in these communities who has cultural practices of denying pregnant mothers from consuming various fruits like bananas and avocados. They did this believing that those fruits are of great “energy” and causes fetus to grow big which results in

mothers getting complication during delivery thereby forcing them to undergo caesarean section (Clinard, 1966). Unhealthy mothers give birth to unhealthy babies and long term effect is unhealthy or a weak generation who cannot withstand hard labor required during development of roads infrastructural projects.

Priority for employment of casual laborers is mostly given to the residents of the area where the project is being undertaken. In most cases, unemployed youths and middle aged persons cannot withstand long hours of hard labor which can be linked to cultural practices during antenatal and postnatal care. However, there have been no evidence done scientifically linking these foods to birth complications but fact is, some of culturally avoided foods is what expectant mothers requires since they are excellent and cost effective sources of nutrients in pregnancy. Advocating against these foods because of cultural practice leads to deficiency of essential nutrients ultimately resulting in poor maternal health, child and infant mortality and morbidity. The same cultural beliefs unfortunately denies expectant mothers from getting advise form professionals of health care in order to receive right information on how to take care of their unborn ²⁰ limited food diversity which eventually results in poor maternal nutrition and consequently, increased risks of infant and child morbidity and mortality. Unfortunately, the same cultural beliefs also prohibit pregnant women from seeking professional advice from health care facilities where they could receive right information on antenatal and postnatal care (Huchzermeyer, 2006). According to Peattic (1992), demystifying harmful myths and cultural beliefs that are practiced by communities will improve complications which are likely to occur to babies because of poor nutrition. Because of this, a productive, intellectual and a healthy generation which can easily be engaged in developmental projects within their village will be born.

⁶⁵ People grow up in a particular society that shapes their belief and values. Cole (1997) observed that cultural ⁶⁴ values are passed from parents to children and are reinforced by schools, peer groups and families. Therefore, people often fear whatever they believed in or used to live with is threatened by change. This fear is expressed in social cultural attitude towards development of roads infrastructural projects in informal settlements thus opening up these areas to their neighborhood. It is now enshrined in the constitution (2010, fourth schedule) that county governments must put in place mechanism to ensure communities participate by assisting them develop capacity for administration to be able to effectively carry out functions, powers or governance at the local level. Therefore, community participation in development of roads infrastructural projects despite their cultural practices and attitude becomes a key determinant to

successful completion of the projects. According to Quinn and Mintzberg (1991), culture is seen to concentrate on involvement of interests and building of organization that is unified through traditions, shared beliefs and habits. Communities living in informal settlements share a common culture whereby, penetrating and changing their ways of life becomes difficult especially where retrogressive behavior and culture dominates. With such a situation, the urban advantage no longer extends to these people and therefore, the notion that children and people raised in urban areas are more advantaged than those raised in rural areas becomes irrelevant since those in rural areas are much better and safer than those in urban slums (Ramos, 1990).

Many residents of informal settlements live under fear of eviction and uncertainty of investing in improving their structures or houses. This is because they lack any form of documents pertaining to land ownership since they are either squatters on public or private land. Barzel (2002) points out that land rights is determined by the amount of protection accorded by law however, land tenure is both culture specific and dynamic varying from community to community and influenced by historical development of each political groupings.

Land is an essential factor for sustainable development of roads infrastructural projects in informal settlements. UN-Habitat/UNESCAP documentation of 2008 (Volume 3:1) stated that land is essential for housing projects to succeed especially to address housing the poor in major cities. Majority of poor city dwellers in the informal settlements lack any kind of legal document to support tenure security. Others live with tenure systems that are informal meaning they cannot build up assets, access credit, use their homes for incomes generating activities and invest in service provision. However, for relieve of many, the government for the first time in many years is demonstrating a commitment to regularize tenure of households living in informal settlements. This is demonstrated by the parliament's approval in December 2009 of National Land Policy and in August 2010 the new constitution incorporates this policy that addresses security of tenure for Kenyans incorporating those living in informal settlements (World Bank, 2011). Moreover, the government's initiative to change lifestyle in informal settlement by use of NYS and informal settlement infrastructural programs has come in handy. Under component two of this program, enhancing tenure security in support of scaling up efforts of regularizing tenure is a good gesture of ensuring residents end up securing formal ownership documents giving investors' confidence to fund infrastructural projects in these settlements (Repcon Associates for GoK, 2011)

2.5 Community leadership and development of roads infrastructural project in informal settlements.

Leaders must use the art of influencing people to enthusiastically and willingly strive to achievement a certain objective or goal to address a felt need in their community or amongst themselves (Cole, 1997). The essence of leadership is fellowship and willingness of people or community to follow those whom providing a means of achieving their own desires, wants or needs. According to Weirich, Cannice and Koontz (2011), people will either be aroused or dampened in their responsiveness to leadership depending on climate in which they reside. Kotler (2001) argued that, ⁶⁹ leadership is about coping with change as more changes are necessary to survive in new dynamic environments. Every community has a person who acts as its head skilled in the art of leadership consisting of several ingredients. These ingredients includes skills to effectively and responsibly usage of power, capability of understanding different motivating forces that human beings have at different situation and time and how to act and inspire them towards certain goals. Pearce and Robinson (2011) observed that one of the major challenges facing leadership is being able to push people into commitment within organization, project and also stakeholders of the organization for purpose success. A leader must be able to show the community targeted for development of roads infrastructural projects the benefit of an improved informal settlement. Success of galvanizing commitment to support any project is determined by the style a leader exercises. These basic styles applied by leaders are; autocratic leadership style whereby the leader commands and expects compliance whereby noncompliance attracts punishment. A leader who uses Democracy and involves people will always consult on actions and decisions encouraging and bringing together key stakeholders. Giving independence of operations to stakeholders and limited use of power is a free-rein leadership style. For leadership to influence development of roads infrastructural projects in informal settlement, democratic or participative style of leadership is the best since it gives room for all stakeholders to participate in the project.

Influence of community leadership on development of infrastructural projects was experienced during development of Dandora S.S.S. According to McInnes (1995), awarding titles and determining land rights was carried out in very slow pace and it led to cancellation of investments by donors on the much needed infrastructural projects in the scheme due to both personal and political interest by leaders. Dandora estate was like any other informal settlements in Nairobi County and people who had settled there were considered during formal allocation. It is among

site and service schemes in Nairobi County which benefited from World Bank funding for infrastructural development. However, due to negative influences by leadership of that time, land titling process was subjected to manipulation by political leaders who awarded themselves land that was set aside for the project and the main beneficiaries (the poor) found a place only on the waiting list (McInnes, 1995).

To address problems of leadership interference with community projects, a new form of tenure was initiated by Community Land Trust (CLT) to award ownership of urban land to groups. This form of tenure was tested in Bondeni informal settlement located in Tanzania, Mtaani-Kisumu Ndogo in Kenya and in Kilifi at the beginning of the 1990s. It was at this time focus on development of innovative institutions to deal with security of tenure for less advantaged in urban areas started. Writers of early 1990s on management of urban areas like Farvacque and McAuslan (1992) gave ideas of approaching security of tenure sensibly to develop new institutions that will build on customary or informal methods in land management without interference of community leaders. However, Kenyan leaders and land experts advocated for reforms on land laws of Kenya which included rights of groups to own land which could be done through a call for institutional innovation (De Soto, 2000).

Lack of visionary leadership have led to informal settlements being a segregation for urban poor built by rural urban immigrants to meet their shelter needs since they could not afford to rent houses in a formal setup. This residential segregation started way back before the independence of our country where posh estates in Nairobi were for the whites and those that were not well done were for African labourers like Bahati estate. Soon after independence, a slogan conducted by the government was widespread and it stated “turudi mashambani tukarime” meaning ⁸¹ let’s return to the rural areas to do farming (Macharia, 1992). Although this was a well meant campaign, it lacked strategies of enticing people who were not earning much in urban areas to run to the rural areas to do farming. The government of the day failed to provide incentives or farming inputs to entice the then urban dwellers. Instead more and more migrants flocked the urban centers majority of them ending up in informal settlements. The administration of that time did not allocate any form of budget to offer services or carry out roads infrastructural projects but instead they harshly enforced regulations towards constructions of structures in slums/informal villages which they saw as poverty areas, with criminals and diseases stricken areas. These settlements are marginalized as a threat to developed estates of middle and upper class citizens and business investments. For

example, an informal settlement in Machakos country bus station in Nairobi was demolished for commercial investments and after an outcry from various organizations, affected families were moved to other informal settlements in Kayole and Dandora. Segregation of communities in the city's estates is evident as zones lived by high earning groups enjoy better roads, good services and less polluted environment unlike informal settlement dwellers.

Most political leaders are unaware of the targets of MDG which focuses in achieving positive changes for people living in slum or informal settlements by year 2020. This is the reason why they don't commit themselves to improve the quality of community life in informal settlements. Infrastructural improvement programs currently being undertaken in the country is a wakeup call for political leaders to influence their electorate to participate in projects geared towards changing their environments and living conditions. However, Kiyu (2014) observed that resistance to such projects is high since politics revolve around interest of local politicians, slum dwellers, business operators as well as NGOs. It is for this reason political process at local level where programs are conceived and implemented face challenges. This is because local leaders or Members of County Assemblies representing communities residing in urban informal settlements are not in a position to influence formulation of public policy which would enable people to engage County Governments on relevant areas of policies and targets of MDG 7. Development of roads Infrastructural projects in informal settlements is not only a technical exercise but involves highly politicized interventions. Political willingness in the government to intervene on behalf of informal settlement dwellers can only be done through generation of policies that are transformative with all sectors of the society coming together to change living standards of the poor in the informal settlements (Huchzermeyer and Karam, 2006).

The most active arm of government within informal settlements are the Provincial Administration represented by Chiefs and District Officers, currently known as Assistant County Commissioners. Chiefs are highly visible through village elders who together are responsible for issuing permits to construct any structure and are quite powerful in their own right. Autonomy of Chiefs in informal settlements in allocation of building spaces and size of structure to be constructed has found settlements in this predicament because of lack of vision of the future. Disconnect of work between County Administrative Officers and area chiefs negatively affect efforts of upgrading these settlements leaving planners to shy of from embracing new methods of planning, analysis and management of urban centers and instead embraced control-oriented planning and

management techniques that were ineffective and incapable of transforming informal settlements in early 1960.

2.6 Project funding and development of roads infrastructural projects in informal settlements

Projects face one major problem of namely completion of tasks on time as an expectation from projects. To achieve ultimate goal of projects, delivering and working within the stipulated period of time is paramount (Flaman et al, 2001). Government funded projects face financial constraints during implementation period since most funds are based on operating departments which in most cases do not focus on strategic programs to assess whether they are proceeding as scheduled. According to Porter (1985), project benefits and costs goes hand in hand in assessment of risks for purpose of identifying alternatives or choosing plans that emphasize on maintaining strategic flexibility. However delayed and inefficient project funding results in lack of attention in maintaining strategic flexibility thereby affecting the ultimate goal. In informal settlements, roads infrastructural projects might face a bigger challenge in case of delayed funding as observed in Kayole Soweto informal settlement where domestic waste is directed to unfinished roads drainage system.

Mathare informal settlements infrastructural improvement program was entered into by government of Kenya and Catholic Church in 1995 to improve the housing conditions of Mathare 4A (Kusienya, 2004). When priority and needs assessment was carried out, the project objectives changed to development of roads infrastructural projects which was ranked the most felt needs, medical facilities and schools followed closely. According to Kusienya (2004), landlords or structure owners commonly referred to as 'Slum Lords' became a force against development of roads infrastructural project. In order to move forward, they had to be paid a huge amount of money as compensation for structures owned. He identified thousands of informal settlements dwellers who lived within 8700 structures of which 7300 rooms were built on land claimed by 'slum lords' and it had a huge impact on finances allocated to the project since much of it was directed towards compensation. At the end of the day, this project was suspended in February 1999 only to resume in February 2003 and so far water points and sanitation have been constructed. According to Waruguru and Ngari (2002), this project was highly politicized since there was a misunderstanding between structure owners and tenants on issue of rent payable per each room.

This was a matter of costing and financing whereby structure owners were to pay back project funding through Pamoja Trust Organization thus necessitating rental increase.

A similar scenario on influence of project funding was experienced in Korogocho village. According to UN-Habitat (2008), Korogocho informal settlement consists of 7 villages each one being occupied by 120,000 dwellers who are crammed in an area of one square kilometer with 18,537 households. Population size of Korogocho is fourth after Kibera slum, Mukuru Kwa Jenga and Mathare village in Nairobi. The land that the village occupies is State owned property but evidence of social economic poverty in the settlement is seen. Provision of services by the state is hardly felt with only two public schools for over a population of 3,500 school going children and the population of young generation who are below 30 years stands at 70% (UN-Habitat, 2008).

Development of roads infrastructural project in Korogocho informal settlement was a joint initiative of the Kenyan Government and Italian Government. Expected outcome of the project was to improve living standards of people living in the informal settlement as per the goals of Millennium Development (MDG). Implementation of the project was set to be 2 years totaling to 2.7 million US dollar. Experience from Korogocho infrastructural project upon its successful implementation was expected to give direction to policy makers on infrastructural upgrading programs in informal settlements. Approach on community participation and the support from political class became a great hope for the success of the project (Government of Kenya, 2008).

In most of government's infrastructural projects in informal settlements, costing and financing have not been put into consideration. For example, strategies used by the government has been through construction of high-rise buildings through KENSUP. These projects are highly funded and it is expected that part of its cost will be recovered through mortgage. Some of contemporary projects on upgrading program looks forward to recovering some of its infrastructural investment cost from communities benefiting from the housing project. The government decides the amount of mortgage and in most cases, these houses end up benefiting other people rather than informal settlements dweller's thus missing the whole point of slum eradication. There have been little efforts to introduce cheaper building materials such as dry mix methods for deep soil stabilization (Blendenberg, Broms and Holm 1999) for either roads infrastructural projects or housing to reduce the cost of construction in informal settlements. Donors who are an alternative Sources of housing finance are few and they shy away from financing people living in informal villages. This is

worsened by unsuitable fiscal policies, interest rates that are high becoming unaffordable to the poor to engage in mortgages. Facilities for finances that are offered by various agencies have to operate in a legal framework that exists making them ineffective over a period of time. Therefore, for an effective way forward, intentions should be to come up with a policy that would amend laws of micro-financing. This would create infrastructural development fund for slum upgrading and construction of low-cost housing hence broadening housing finance base. Proposed funding for the poor living in informal settlement through informal funding and micro-financing is key to transformation of structures in those areas (McLeod, 2004). Government funding would come in handy if it is directed towards roads infrastructural development and services in informal settlements. A reduction by county governments on cost of economic activity, streamlining development control, land allocation and other regulatory activities is a sure way of poverty reduction in counties as per 2004 strategic paper on poverty reduction. The paper stipulates the policy on national housing, action plan on habitat agenda for housing settlements and shelter. It also recognizes development of infrastructural projects as an essential part of housing development and advocates commitment by governments and development agencies, to drastically improve living environment for informal areas through provision of affordable shelter and basic services in urban centers (Government of Kenya, 2004). A research conducted by Ministry of Public works reveal that Kenya has undertaken many initiatives on development of roads infrastructure in informal settlements such as upgrading of Mathare 4A that started in 1995 and Korogocho village in 2008.

Timely disbursement of funds for governments' funded infrastructural projects is dependent on revenue collected for that particular period. Taxes constitute major source of governments' revenue not only in Kenya but in the whole world (Hyman, 1990). It is well known that the tax payer has no choice of obligation and there is sometimes no relationship between the amount paid and benefit received. Development of roads infrastructural project in informal settlement is funded by the Government and World Bank which is payable through government tax. Though the fund is meant for development of informal settlements in the country, there is no set fund for each county. For a county to benefit most with the project timely identification of a potential informal settlement and timely disbursement of funds is paramount.

Key inflation indicator is escalation of crude oil prices which translate into higher transport and production cost thereby undermining achievement of government investment target and resulting

to poor turn-out in growth performance (Kimenji, Mbaku and Mwaniki 2003). According to Yescombe (2002), inflation may be either a risk or a benefit to the project depending on its timing. For example, construction cost is usually vulnerable to inflation and can lead to prolonged completion time for projects. However in preparation of roads infrastructural projects budget, an allowance has to be made for inflation during construction to cover personnel cost and items purchase such as spare parts (Yescombe, 2002). This research paper will establish the extent to which inflation have affected development and timely completion of roads infrastructural projects in Kenya's informal settlements.

Corruption has been a major cause of substandard works of infrastructural projects. Development of roads infrastructural projects in informal settlement has a variety of pre-conditions which are similar to those of KENSUP as observed by Syrjanen (2008). Project interventions in providing roads infrastructure within informal settlements must be strategic and successful to avoid perception of embezzlement of funds. The whole process of infrastructural development in informal settlement is dependent on the political and institutional support of the government and other partners not forgetting social stability in the areas targeted for development. While the political class would be out to gain political millage, government officers might be out to manipulate tendering process for possible kickbacks while CBOs would want status quo to remain for a continued funding of their programs in these settlements. According to transparency international, Kenya is ranked among countries with high levels of corruption. This severely constrains foreign investment and weakens local economy impacting negatively on initiation of projects.

2.7 Legal challenges and development of roads infrastructural projects

In major cities of Africa, urban poor who mostly resides in informal settlements often overlook their country's law to enable them access housing. Few scholars have done some studies on illegality of houses in informal settlements and the legal implications (Fernandes and Varley, 1998). Although human right laws accepted the rights of all human beings to live in a secure, dignified and peaceful place, demolitions of structures in informal settlements by either private developers or land grabbers continues unabated. Kenyan constitution enshrines rights to safe water, health care, adequate housing and social assistance as the most basic and important in changing societies into freedom, dignity and equality. However, the challenge is translation of these rights into secure, affordable and safe living conditions for urban poor which could be

addressed through courts, government offices, civil society and organizations that stands for urban poor (Huchzemeyer and Karam, 2006). However, all is not lost because of government initiative of development of roads infrastructural projects under KISIP which is a participatory effort to address this challenge.

Success of roads infrastructural development project in informal settlements depend mostly on reformation of land acquisition and land laws that reflects “people’s law” and institutional innovations in addressing urban poor’s land on tenure security. A research conducted by Habitat International presented an important picture from community land trust model (CLT) which was a result from innovative institution on tenure performance. To evaluate CLT performance, a case study examined two upgrading projects in kenya which included Bondeni project in Voi and in Kilifi Kisumu Ndogo village, where leasehold titles for 5 years with restrictions on resale was issued to beneficiaries (Bassett, 2001). Kenyan planners’ embraced CLT model since it seemed to be a way of providing sustainable tenure security and overcome the problems of selling land by individuals meant for slum upgrading projects. Enacting laws that prohibit sale of community and informal settlements lands will not only protect urban poor but also their homes from escalating demand of urban land for commercial use. Such laws will provide nets for social safety that would assist informal settlement dwellers to take care their structures or homes although some of the urban planners and policy makers who might be interested in community or informal settlement lands will definitely be a force against enactment of such laws (Bassett and Jacobs, 1997). There have been challenges in governing communities living in informal settlements including indications of influence peddling. It is for this reasons that county bylaws are not followed be it in business or in construction leading to unplanned structures within these settlements. This study will establish the extent to which this has influenced development of roads infrastructural projects in these areas and its legal implications.

What concerns communities living in informal settlements is the issue of rights to land and their recognition in law. Rights is an affirmative claim in favor of one person against another in respect of a given situation, object or thing in which the right holder has an interest. When it comes to property rights, there exist a legal relation between persons and in this regard, such conceptions of property like an aggregate of legal rights or a bundle of rights have been propounded by scholars (Government of Kenya, 2002). The rights to property is best captured by the term tenure on land which explains the methods groups or individuals hold, acquire, transmit or transfer rights of

property. It is for this reason that accessibility in informal settlements where some of structures have to be removed to give way for construction of roads face legal challenges. De Soto's (2000) idea of the same is that a consensus between people as what they call legally theirs can be held, used and exchanged. This can only happen when they are engaged fully in identification, implementation and evaluation of community projects. Consequently land ownership denotes the bundle of legal rights that one has over other properties. Property rights grant owners the liberty to deal with the properties as they deem fit but this may be subject to laws in a given area (Wanjala, 2000).

Therefore, as per Wanjala (2000) observations, law seeks to protect an interest that a person has over a certain land. The amount of protection accorded to the property rights in a given parcel of land is dependent on the ability of identifying the person defining the rights. It is in this regard land bankers and cartels evict communities living in informal settlements despite their advance possession. For this reason communities living in informal settlements resist any government sponsored project for fear of being evicted.

There are three groups legally identified by Kenyan law whose right to property and land has been protected. These are individuals, communities and the public. In informal settlements, land either belongs to an individual or public but it is never owned by communities living there on. For this reason, Kenyan government through component two of KISIP intends to offer tenure security alongside improvement of infrastructure in informal settlements (World Bank, 2011). It is however noteworthy that despite the existence of the tenure types provided for in law, certain informal tenure systems also exist (Mabogunje, 1992). These informal tenure systems are insecure but are usually used by persons to access land rights outside confines of the law. While the Constitution recognizes the three tenure categories, the plight of those in informal settlements whose land rights are not currently recognized requires thought and resolution. In addressing their plight and seeking to secure their land rights, consideration has to be given to whether formalization and individualization of tenure is useful for residents of informal settlements or whether we should heed the caution of African scholars who warned against formalizing informal tenure arrangements through titling (Payne, 2001).

Lack of laws to secure tenure of informal settlement lands is a key inhibitor for communities' livelihoods, access to basic services, justice and productive use of land. In Mukuru Kwa Njenga,

communities and individuals have lived in land which was originally set aside for development of light industries but later on allocated to either individuals or corporations through either political influence or corruption, some of whom have legal titles. While title deeds have been issued to such individuals and corporations, the land in Mukuru Kwa Njenga is inhabited by largely poor people, who have either rented premises from slumlords or who occupied the land based on some administrative action of the government or political leadership. The end result has been contestation over property rights, conflicts between de jure tenure rights and de facto tenure rights (Leach, 2000).

It has been a hilly task in development of roads infrastructural projects in this settlement based on a case study done by International Development Research Centre on Innovating Tenure Rights for Communities in Informal Settlements. The study explored the implications of Kenyan laws and the constitutional provisions in protecting the right to property in efforts to secure tenure rights for inhabitants of Mukuru. This study highlighted that past efforts looked into either, arguing in favor of right to housing, preventing evictions or title deeds issued illegally and are in the hands of private developers. It failed to explore whether those living in informal settlements can claim legal title on account of advanced possession, if their legitimacy basis for claiming rights can override the legality claim of the title holders on account of non-adherence to conditions attached to the allocation and what policy and legal innovations can be used based on the Constitution to give legal clothing to legitimacy claims of the residents in the face of blind allegiance to legality. This study discovered that provision of community rights in Constitution especially criterion for communities of interest would grant better tenure security to residents in informal settlements than current drive for titling (CKRC, 2004).

Like many other informal settlements, Mukuru Kwa Reuben is largely on Government Land and thus the reason why government land act (GLA) was enacted to provide for regularization, leasing and disposal of government lands. Based on this GLA, several grants were given to individuals by the president including Mukuru Kwa Reuben informal settlement. For allocation of these lands, special conditions were given that the land and the buildings thereon were to be used only for light industrial purpose. Legal implication was that within 24 months of registration of the grant, one had to complete the erection of building(s) and make use of the land as intended (Government of Kenya, 2004). It is clear that the requirement to set up light industries in the land was not and has not been met to date. Indeed the land allocated was left unoccupied and unattended leading to

emergence of informal and unplanned settlement of Mukuru Kwa Reuben. This issue must be looked at from a historical perspective where allocation procedures of land belonging to the government have not been respected in Kenya for decades, leading into irregular and illegal allocation of land belonging to public and failure to adhere to conditions of allocation. As noted in the recommendation report of National Land Policy, the effect of irregular allocation of land has been felt in areas of tenure security, land use, planning and development of urban areas with injustice being occasioned. People allocated land in urban centers has absolute rights to the land and are protected from legal challenge due to government's failure to align landholding with its use. The fact that this situation obtained for a long time and is widespread leads to the question of whether by inaction, the doctrine of larceny may not be a barrier to an attempt to assault the rights of titleholders especially where there are rights of third parties who have either bought the land or taken it as collateral for loans (Asienwa, 1991).

It is estimated that there are many lease titles granted to individuals in Mukuru Kwa Njenga and Kwa Reuben informal settlements. In most cases these lease titles are held by persons not in actual occupation of land due to intrusion by squatters thereby raising an interesting issue in property law where the legal owner is not in occupation of the land. This is because of vested interests of slumlords who have erected structures on private or public land and letting them out to tenants as if they are the genuine owners. In other instances, people who have bought land from the original allottee and have not developed the same may be in possession of the legal title but not possession of the land due to encroachment by slumlords or informal settlements. The repealed Constitution's Section 75 protected land rights with vigilance and the only assault on those rights was through the requirement of adherence to planning regulations or compulsory acquisition in the broader public interest (Campbell, 1990).

2.8 Theoretical framework

There has been a state of hopelessness in most communities living in informal settlements and their attitude seems not to care about changing or improving their situation but instead accept the status quo. These communities have the purpose and the potential to shape and transform their own lives however, their ability to shape their reality is often crushed by the social forces around them (University Council, 2014). For several years, there have been various efforts by change agents both from government and private entities to bring change through implementation of various projects such as KISIP. This consulted efforts by various change agents to bring change

in informal settlements can be referred to as external force that acts as a wake-up call to communities who have remained at rest or in a uniform state to action as per Isaac Newton's law of motion which states, "every object will remain at rest or in a uniform motion in a straight line unless compelled to change its state by the action of an external force".

It is through this wake-up call or what is commonly known as sensitization that external force is applied in a way of enlightening communities on what they have been denied through distribution of national resources thereby creating tension among themselves. It is through this tension which Karl Marx's conflict theory of social change proposed as a driving force behind social change. To succeed in development of roads infrastructural projects in a place where people are used to living in congested environments is quite challenging because of already developed strong social bond and the fear of separation through RAP exercise. However, even the marginalized people despite their dependence on decision makers can tolerate marginalization for a certain period and will one day rise up to demand their share be it of roads infrastructure or service delivery. For example in some of Nairobi's informal settlements, people realized that they had a right to water and sanitation projects and through initiative of Pamoja Trust organization these services were provided.

2.8.1 Stakeholders theory

This theory guides the researcher on the influence of community participation in development of roads infrastructural projects in informal settlements. The proponent of the theory was Richard Edward Freeman in 1984 who looked at the role stakeholders played in the success of organizations (Freeman, 2010). Freeman stated that, stakeholders are people whose objectives achieved by an organization affects them in one way or another or those groups without their support the organization would cease to exist. Communities living in informal settlements are key stakeholders in the success of development of roads infrastructural projects in their settlements. According to Abbot, (1996), an increased involvement or local communities participation in making decision for urban development planning and practice is key to success of development projects. Stakeholder's involvement or community participation is not an idea that originated in the twenty first century but an idea that has been around since the beginning of settlements humans formed during their evolution. Individuals grouped together in tribes to secure their basic needs namely, food, clothes, shelter and social contacts (Sanoff, 2000).

During infrastructural development project in informal settlements, the concept of social inclusion cannot be ignored since during planning stage, some spaces within targeted settlements must be marked as green spaces to act as settlement's breathers. In transforming the status of informal settlements, the ability of planners in engaging community in designing road projects is of great importance for its success. The two team of planners and community are referred to as stakeholders by Freeman's stakeholder theory and they are capable of affecting both positively or negatively achievement of project objectives. However, Marx and Engels (1844) argued that achievement of projects objectives is not determined by stakeholder's engagement but rather changing economic structures which may result in different social interaction patterns.

2.8.2 Theory of human nature

This theory guides on influence of community culture in development of roads infrastructural projects in informal settlement. The proponent of the theory was Charles Taylor in 1994 who stated that all human cultures have something to say to all human beings. If human culture can be thought to be a belief, customs or values group share then different groups cultural interactions can be shaped towards exchanges or transactions of material or symbolic items within a framework of economy (Throsby, 2001). According to theory of human nature, external interventions interferes with people's lives with the burden lying on identifying and interpreting cultural practices of different communities so as to minimize conflict as one applies different intervention methods in the community. Therefore, before development of roads infrastructural projects in informal settlements, People do not have to be made to participate by external interventions or forces instead they should identify their own challenges and with minimal external support, devise ways to address those challenges.

2.8.3 Leadership theory

This theory guides on community leadership for this study and the proponent of the theory was Rensis Likert in 1967 (as cited in Ruiz, 2011). He came up with styles applicable in leadership and particularly in decision making and to what extent is required to involve community in decision making. In his findings, he came up with four main styles of leadership as explained below.

Exploitive authoritative style is when a leader uses threats and instills fear to achieve performance and there is low concern on the subjects. During communication downward method is used with

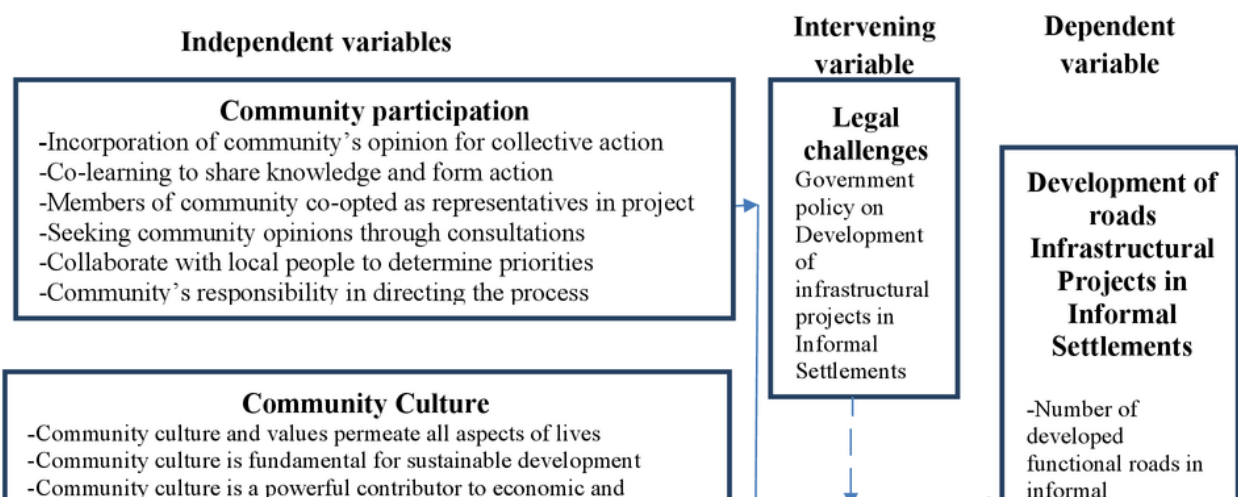
less concerns or ignoring receiver's response. Leadership style which a leader is concerned on the subjects and at the same time uses authoritative position is a benevolent authoritative style. Rewards are given for encouraging performance and almost all major decisions are made centrally. For consultative leadership style, there is flow of information from downward to upward and leader's makes effort to listen to ideas but major decisions are made by the elite or centrally made. Maximum engagement of people who are at lower levels of organization through participation and decision making is known as participative leadership style. The success of infrastructural projects in informal settlements will be determined by the leadership style used to engage communities living in those settlements. Any project in the community may suffer from lack of proper leadership or direction which is required when the project has lost momentum because of resources and may require some effort to leverage new resources or conflict problems (Robinson and Green, 2011). According to Northouse (2010), leadership has two kinds of behaviors namely, relationship and task behaviors. Relationship behaviors assists people working at lower levels of an organization to feel comfortable not only with themselves but also with one another and in situation they find themselves in whereas Task behaviors facilitate goal accomplishment.

2.8.4 Keynesian competing theory

This theory guides the study on influence of project funding on development of infrastructural projects in informal settlement. The proponent of the theory was a British economist John Maynard Keynes during the 1930s in an attempt to understand the great depression. According to Crundwell (2008), Keynes believed that government intervention in the economy was necessary in order for the economy to create full employment and that government spending can spur economic recovery. He further argues that, inflation is central to the competing theories of macroeconomics such as the opposing Keynesian and monetarist views. Therefore, Project managers must determine the projects ability to consume and produce cash or determine the projects cash flow by looking out for escalation of prices for the same goods and services which is inflation. Governments funding on roads infrastructural projects in informal settlements opens up those settlements creating opportunities for businesses and other economic activities. This creates employment supporting Keynesian theory (as cited in Crundwell, 2008) which states that unemployment is the result of structural inadequacies within the economic system and is not a product of laziness as believed by many.

2.9 Conceptual framework

The study seeks to establish factors influencing development of roads infrastructural projects in informal settlements. Independent variables for this study are factors influencing development of roads infrastructural projects in informal settlements while dependent variable is development of roads infrastructure projects in informal settlements which is more likely to be influenced by legal challenges which is the intervening variable for the study.



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¹ There is a significant relationship between community participation in planning phase and completion of development project as per a report done by UN-Habitat (2003). According to Payne (2001), an increase in community participation during projects execution phase through incorporation of their opinion for collective action increases the chances of timely completion of those projects. Proper information need to be channeled to the community for them to understand the purpose of their engagement and at what level. People living in informal settlements lives in constant fear of eviction by land cartels and for them to understand fully the importance of development of roads infrastructure in their settlements, full engagement through co-opting their representatives in the project plays a crucial role.

Tomlinson (1998) observed that, most of the people residing in informal settlements resist paying for services provided by the government ⁴⁹ due to a culture of non-payment. They believe that public services should be subsidized or provided free of charge by the government of the day. This behavior ends up affecting their relationship with stakeholders of Infrastructural development in

the informal settlements due to high demands of tokens and handouts from community participants.

Development of roads infrastructural projects in informal settlements would require leaders who have ability to influence communities living in those areas to strive willingly and enthusiastically towards achievement of the projects goals. The essence of visionary community leadership in this project is to organize their community and lead them in accepting the project thus participate willingly without coercion or demands for handout.

Project funding has a direct impact on development of roads infrastructural projects in informal settlements. For example, these areas come in with cost of planning and relocation of some structures to create space for development. Some of the government officials conspire to create hefty compensation or facilitation for people whose structures are affected by the roads infrastructure and they ensure the projects timeliness is lengthened so that they earn more allowances (Okoth, 2017).

2.10 Summary of literature review

From review of the studies, it has been established how concepts under investigation are capable of influencing development of infrastructural projects in informal settlements. There are considerable challenges faced by project stakeholders especially in government-led infrastructural projects. However, to overcome the challenges, community participation is applied as revealed in Korogocho village where community participated in the initiation, planning, execution, and monitoring phases was key to completion of project (UNICEF, 2012). A UN-Habitat report revealed that community participation in projects identification, planning, execution, monitoring and evaluation is key to completion and sustainability of projects in the community.

Combination of extreme poverty, absence of essential basic services and slum culture characterize circumstances under which people live in informal settlements. Community participation and leadership in development of infrastructural projects in Huruma was a sure way of overcoming some of the challenges such as slum culture. Pamoja Trust, an NGO based in Nairobi has demonstrated the importance of a people led process in improvement of their neighborhoods and environments especially in informal settlements thereby making development of infrastructural projects easy to undertake in these areas (Pamoja trust, 2011).

Influence of community leadership on development of roads infrastructural projects in informal settlements have been found to be of great impact as was experienced during development of Dandora site and serviced schemes back in 1989 (McInnes, 1995). Scaling back or cancellation of investment on roads and other infrastructural projects in the scheme due to both personal and political interest by leaders was experienced and it affected timely completion of the site and service scheme project. To achieve the target of millennium development goal by 2020 on improvement of lives of at least 100 million slum dwellers, opening up these settlements through development of roads infrastructure is key. This can only be achieved through cooperation of both political and local leaders because their resistance toward development of such projects is usually high because of their vested interests.

The ultimate goal for projects is timely completion of tasks which is achieved by working within an established period and budget producing identifiable deliverables (Flaman *ea It*, 2001). Infrastructural projects that are carried out by the government faces financial constraints especially when corruption creeps in as noted by Okoth (2017) that government officials collude with cartels to reveal where roads infrastructural projects are meant to pass and work out a formula for way leave compensation. Because of huge number of claims for compensation, the cost of the project escalates and due to the process of settling claimants, the project is delayed giving room to increase of funding due to inflation. This challenge is mostly experienced by donor-funded projects because of their strict guidelines on compensation for way leave



Table 2.1: Knowledge gap table

Variable	Indicators	Researcher (Year)	Title of study	Findings	Knowledge gap
Community participation	<ul style="list-style-type: none"> -Community members opinion are incorporated for collective action -Local people and outsiders co-learn to share their knowledge and work together to form action -Members of community are co-opted as representatives in project -Community opinions are sought through consultations and decide on course of action -Managers of the project collaborate with local people to determine priorities -Community has the responsibility for directing the process 	<p>Otieno, M. M and Wafula, M. (2009)</p> <p>Amnesty International Publication (2009)</p> <p>Khalifa, M. A (2014)</p> <p>Muteta, G., Ngoi, G. K., Sheuya, S. A (1998)</p> <p>Ministry of housing (2012)</p> <p>World bank report no: 58267-KE, February 24, 2011</p> <p>Schein, E. (1992)</p>	<p>Environmental issues in project planning and management module</p> <p>Kenya the unseen majority: Nairobi two million slum dwellers</p> <p>Evaluation of informal settlements upgrading strategies in Egypt</p> <p>Linkages between infrastructure development and improved productivity and working conditions in informal sector enterprises</p> <p>Kenya informal improvement project operational guidelines</p> <p>Project appraisal document for the informal settlements improvement project</p> <p>Organizational Culture and leadership</p>	<p>Impact of unplanned informal settlements on quality of life</p> <p>History of informal settlements in and around Nairobi</p> <p>Review of settlements policies by many governments to enable community participation</p> <p>Community living in slums fears attempts to change their environment through infrastructural development</p> <p>Program to improve slums through roads network</p> <p>A well-defined urban planning strategy is important to achieve an improved informal settlements</p> <p>How community and organizational cultures take time to change</p>	<p>How community opinions can be incorporated and direct the process of roads infrastructural projects</p> <p>Which strategies to use to co-opt community representatives in decision making forums with experts on road projects</p> <p>Development of infrastructure in informal settlements to encourage self-build.</p> <p>How to handle this fear of opening up informal settlements through construction of roads projects</p> <p>The role of primary stakeholders.</p> <p>Role of community participation in achieving improved informal settlements.</p> <p>How community culture can be used as power to economic development</p>
Community culture	<ul style="list-style-type: none"> -Community culture and values permeate all aspects of lives 				

	<p>-Community culture is fundamental for sustainable development</p> <ul style="list-style-type: none"> -through tangible & intangible heritage, various forms of expression -Community culture creates industry & various forms of expression -Community culture is a powerful contributor to economic development with available infrastructure -Community culture ensures social stability and environmental protection -Community culture defines the way human beings live & interact 	<p>Cole, G. A. (1997)</p>	<p>Strategic management</p>	<p>Value embodied in an organizational culture affects its relationship with stakeholders such as the general community</p>	<p>with available roads infrastructural projects</p> <p>Behavioral patterns caused by cultural practices and their influence on improvement of informal settlements.</p>
<p>Community Leadership</p>	<ul style="list-style-type: none"> - Leadership that is visionary - Leadership that is inclusive - Community leadership that is capable of transcending single issues and partisan politics - Community leadership that is grounded in clearly and articulated values - Leadership committed to improving the quality of community life 	<p>28 Huchzermeyer, M and Karam, A (2006)</p>	<p>Informal settlements a perpetual challenge in Cape Town</p>	<p>Colonial segregation policies</p>	<p>How leadership can be used to influence community participation.</p>
<p>Project funding</p>	<ul style="list-style-type: none"> - Costing and financing of infrastructure budget - Timely disbursement of funds for projects - Effects of funding Inflation on project funding - Effects of corruption on project funding 	<p>63 Andenberg, H., Broms B. B., Holm, G. (1999)</p>	<p>Dry mix methods for deep soil stabilization for cutting cost on construction</p>	<p>The technology can be a cost effective way in building cheap houses in informal settlements.</p>	<p>How it can be applied in construction of roads infrastructural projects in the same informal settlements.</p>
<p>Legal challenges</p>	<p>Government policy on development of roads infrastructural projects in informal settlements</p>	<p>44 Ziblim, A. (2013)</p>	<p>The dynamics of informal settlements upgrading in South Africa</p>	<p>45 Lack of comprehensive national legislative and policy framework in support of slum upgrading.</p>	<p>Emphasized more on shelter provision for slum dwellers rather than infrastructural development to enable them upgrade their structures.</p>

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Development of roads infrastructure projects in informal settlements		Bassett, E. M., and Jacobs, H. M. (1997).	Community-based tenure reform for informal settlement upgrading: The community land trust experiment in Voi, Kenya. Land Use Policy	Control of communities living in informal settlements faces a common challenge of tenure security of lands they live on	Which legal guidelines to follow in improving informal settlements whose owners do not enjoy tenure security
-Number of developed functional roads in settlements -Number of new business opportunities due to new roads network -New openings & connections to neighborhood's trunk infrastructure	World Bank (2011). Report no: 58267-KE, February 24 Muraguri, L. (2011).	Project appraisal document for the informal settlements improvement project Kenyan Government Initiatives in Slum Upgrading	KISIP must ensure environmental and social issues are adequately identified. Development of RAP and detailed engineering design	The area of community participation in identifying those issues. Input of stakeholders in engineering designs	

RESEARCH METHODOLOGY

3.1 Introduction

This chapter presents the methods and techniques that researcher will employ in this study. In particular, this chapter describes the research design, target population, sample size and sampling procedure, research instruments, pilot testing of instruments, validity of instruments, reliability of instruments, data collection procedures, data collection instruments, data analysis techniques, ethical consideration and operationalization of variables.

3.2 Research Design

Research design is the scheme, outline or a plan that is used to generate answers to research problems (Orodho, 2003). Research design provides an operational frame within which the facts are placed, processed through analyzing procedures and valuable research output is produced. Further, Donald (2006) notes that a research design is the structure of research, it is the “glue” that holds all the elements in a research project together.

The research design adopted for this study is a descriptive survey design that will sought to ascertain the factors that are likely to influence study development of roads infrastructural projects in informal settlements. The research will employ a mixed strategy of both qualitative and quantitative methods. The phenomenon under investigation is the factors influencing the development of roads infrastructural projects in informal settlements: the case of Embakasi East Constituency in Nairobi County, Kenya. This will be limited to development of roads infrastructural projects in Kayole Soweto informal settlement. This descriptive survey method concerns the intense investigation of problem solving situations in which problems are relevant to the research problem. The underlining concept was to select several targeted cases where an intensive analysis was to identify the possible alternatives for solving the research questions on the basis of the existing solution applied in the selected case study. The study attempted to describe and define a subject, often by creating a profile of group of problems (Cooper and Schindler, 2003). Thus, Kayole Soweto village within Embakasi East Constituency in Nairobi was the main focus of this study, because the area provided a natural setting on which data was collected.

¹ 3.3 Target Population

The target population is defined as the particular entity of people, objects or units to which a researcher can reasonably generalize his or her research findings (Mugenda and Mugenda, 2012).¹⁹ According to Ngechu (2004), a population is a well-defined or set of people, services, elements, and events, group of things or households that are being investigated. The population for this study was the community living in Kayole Soweto which during Kenya population and housing census of 2009 was administratively referred to as Savanna Ward with a population of 23,516 households (Kenya National Bureau of Statistics, 2010). The target population consisted of household heads from both gender who have been in the settlement before initiation of roads infrastructural projects in the area since they were in a better position to describe the situation before and during implementation of the project.

³ 3.4 Sample Size and Sampling Procedure

Sampling techniques provide a range of methods that help to reduce the amount of data need by considering data from a sub-group rather than all possible cases or elements. At the time of conducting research, it is often impossible, impractical, or too expensive to collect data from all the potential units of analysis included in the research problem. A smaller number of units known as a sample, are often chosen in order to represent the relevant attributes of the whole set of units, the population. Since the samples are not perfectly representative of the population from which they are drawn, the study cannot be confident that the conclusions will generalize the entire population. Sample of respondents was drawn from the heads of households of Kayole Soweto informal settlement, community/cluster leaders, SEC members, external stakeholders who are comprised of national and county KISIP teams. This study adopted a simple random sampling where each subject from the population was chosen randomly and entirely by chance.³⁵

¹ 3.4.1 Sample Size

A sample is a small part of a larger population which is thought to be representative of the larger population. Since constraints of time and resources did not allow the researcher to study the whole population, this study adopted the following formula in determining the sample size and random sampling in selecting the respondents in the sample size where;

$$n = Z^2 P (1-P) / d^2 \text{ (Fisher et al, 1990)}$$

Where;

³³
n= the desired sample size (if the target population is greater than 10,000)

Z= the value of the standard deviate at the 95% confidence level (1.96)

P= the proportion of the population hypothesized to be middle class = 24%

d= level of error allowable at the given level of confidence = 5%

Margin of error +/-5%

Level of confidence = 95%

The minimum required sample is; $n=1.96^2(0.24)(0.76)/(0.05)^2=280$

Sample Size (SS) =280

SS for the target household population of 23,516

$SS = (SS)/1 + ((SS-1)/Population) = 280/1 + ((280) / 23,516)$

SS =277

3.4.2 Sampling Procedure

According to Khan (2008) definitions, sampling procedure is a ⁵¹ process of selecting a part of a ³² group or an entirety with the sole aim of collecting complete information. It is a definite plan for ⁶³ obtaining a sample from a given population. This entirety or totality of all members is known as 'population' (Khan, 2008).

³⁵ This study employed simple random sampling procedure where each subject from the population was chosen randomly and entirely by chance. The researcher deliberately avoid choosing two heads of the same household and ensured that the questionnaires were distributed evenly across the nine zones of Kayole Soweto.

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3.5 Research instruments

Primary data for this study was collected using questionnaires which consisted a mixture of open ended and close ended questions allowing intensity and richness of individual perceptions in respondent responses (Babbie, 1998). The study used questionnaires because it is flexible and facilitates the capture of in-depth knowledge of the respondents, promotes respondent cooperation and allows probing further for clarification of issues. As a method of data collection, questionnaires are appropriate because they are easy to analyze, are cost effective and allows for intensity and richness of individual perceptions in respondents responses (Andersen, 2003). The study questionnaire was divided into seven sections. The first section entailed general instructions to the respondent and the assurance of confidentiality. Second section entailed personal information whereby, the researcher found out the gender of the respondent, age bracket, their role in development of roads infrastructure in Kayole Soweto and the years they have been in the area. In the third section, the questionnaire sets out assessment on how community participation influenced development of roads infrastructural projects in Kayole Soweto informal settlement. The fourth section assessed influence of community culture in development of roads infrastructural projects, fifth section assessed influence of community leaders, sixth section assessed influence of project funding and seventh section assessed the benefits of development of roads infrastructural project in Kayole Soweto informal settlement.

8

3.5.1 Data collection instruments

Data was collected by the researcher over a period of two weeks by the use of self-administered questionnaires which was given to the participants. The questionnaires which contained closed and open ended questions were self-administered to the sampled respondents since it allowed intensity and richness of individual perceptions in respondent responses (Andersen et al, 2004). A research permit from the area chief explaining the purpose of the study to the respondents was obtained.

3.5.2 Pilot testing of instruments

Pilot setting generally involves conducting a preliminary test of data collection tools and procedures to identify and eliminate problems, allowing programs to make corrective revisions to instruments and data collection procedures thus ensuring that data collected is reliable and valid

(Mugenda, 2008). According to Babbie (1998), reliability and validity of research instruments determines the quality of data collected and hence that of the whole research. Key informants in the categories of respondents was used in the pilot test to establish the reliability and validity of the instrument, the questionnaire and interview were administered to the key informants and the information was analyzed to establish its validity and reliability. Any questions within the instrument found to be resulting in unreliability or invalid information was altered in order to result in more reliable and valid information.

3.5.3 Validity of instruments

Validity tests the data collection tools and methods and ensures they are measuring the right concept and not something else. It is the accuracy and meaningfulness of inference, which are based on research results. According to Borg and Gall (1989) validity is the degree by which the sample of test items represents the content the test is designed to measure.

To ensure content validity, the instruments were reviewed by the research supervisor and other research experts. Response options were provided for most of the questions to ensure that the answers given were in line with the research questions they were meant to measure. Information on research instrument was also cross checked, inspected and scrutinized which ensured accuracy, relevance, completeness, consistency, and uniformity of the collected data.

3.5.4 Reliability of instruments

Reliability indicates the stability and consistency with which the data collection instrument measures the concept. Instrument reliability refers to the level of internal consistency, or the stability of the measuring device (Thorndike and Hagen, 1961). Reliability is said to be stable if it gives consistent results with repeated measurements of the same object with the same instrument. The Test-retest method was used to test for reliability of the instruments used and for purpose of determining the accuracy of the data collected.

3.6 Data collection procedures

According to Ngechu (2004) there are many methods of data collection. The choice of a tool and instrument depends mainly on the attributes of the subjects, research topic, problem question, objectives, design, expected data and results. This is because each tool and instrument collects

specific data. Also, Best and Kahn (2004) conceive that data may be collected by a wide variety of methods. Primary data is gathered and generated for the project at hand. Primary data is information gathered directly from respondents and for this study, the researcher used questionnaires. Secondary data is the data gathered for other purposes and used in the recent project usually secondary data are found inside the company, libraries, research centers, and internet. Secondary data involved collection and analysis of published material and information from other sources such as annual reports, published data.

In this study, questionnaires were administered to the sampled population. The questionnaire had both open and close-ended questions. The close-ended questions provided more structured responses to facilitate tangible recommendations. The closed ended questions was used to test the rating of various attributes and this helped in reducing the number of related responses in order to obtain more varied responses. The open-ended questions provided additional information that may have not been captured in the close-ended questions. The questionnaire was carefully designed and tested with a few members of the population for further improvements. This was done in order to enhance its validity and accuracy of data that was collected for the study. The study also employed focus group discussion as one of methods in data collection. An interview schedule was designed to guide the survey.

Secondary data was collected for this study. The data was useful in generating additional information for this study from already documented data or available reports. Cooper and Schindler (2003) further explain that secondary data is a useful quantitative technique for evaluating historical or contemporary confidential or public records, reports, government documents and opinions. Mugenda and Mugenda (2003) add that, numerical records can also be considered a sub category of documents and that such record include figures, reports and budgets. This basically implies the incorporation of valuable statistical data in the study.

3.7 Data analysis techniques

Mugenda and Mugenda (2012) define data analysis as the process of cleaning and summarizing data so that it becomes information that can easily be interpreted and conclusions made to support decision making. Before processing the responses, the completed questionnaires were edited for completeness and consistency. Quantitative data collected was analyzed by use of descriptive statistics and presented through percentages, means, frequencies, and cross

tabulation displaying information by use of bar charts. This was done by tallying up responses, computing percentages of variations in response as well as describing and interpreting the data in line with the study objectives and assumptions. Content analysis was used to test data that was qualitative in nature or aspect of the data collected from the open ended questions. According to Baulcomb, (2003), content analysis uses a set of categorization for making valid and replicable inferences from data to their context. The data was broken down into different factors influencing the development of infrastructural projects in informal settlements: the case of Mathare constituency in Nairobi County, Kenya. This offered a quantitative and qualitative description of the objectives of the study.

3.8 Ethical considerations

Before the study begun, permission was sought by getting a letter of recognition from the area chief and the gatekeepers in the area were informed of the study in order to ensure the study follow principles. The five principles guiding ethics in research were followed; these are scientific merit, equitable selection of subjects, seeking informed consent, confidentiality and avoidance of coercion. Prior to collecting information from the respondents, the researcher explained to the respondents the objectives of the study, and how the findings would help them and the country at large.

3.9 Operationalization of Variables

Operational definition of variables is operationally defining a concept to render it measurable. It is done by looking at the behavior of the dimensions, indicators, properties denoted by concepts translated into observable and measurable elements to develop an index of the concepts. Measures can be objective or subjective.

Table 3.1 Operationalization table

Objectives	Variable	Indicators	Method of collecting data	Scale of Measurement	Data analysis techniques	Tools of analysis
To assess how community participation influence development of roads	Community participation	Influence of communication Cartels influence, Wide spread poverty	Questionnaire	Nominal, Likert	Percentage, Mean, Standard deviation, correlation,	Bar charts

infrastructural projects in informal settlements					Regression Frequencies	
To assess how community culture influence development of roads infrastructural projects in informal settlements	Community culture	Fear of change. Tenure security	Questionnaire	Nominal, Likert	Percentage, Mean, Standard deviation, correlation, Regression Frequencies	Bar charts
To assess how community leadership influence development of roads infrastructural projects in informal settlements	Community leadership	Social segregation. Political influence. Administrative influence	Questionnaire	Nominal, Likert	Percentage, Mean, Standard deviation, correlation, Regression Frequencies	Bar charts
To assess how project influence development of roads infrastructural projects in informal settlements	Project funding	Costing and financing. Timely disbursement of funds for projects. Effects of inflation. Effects of corruption on project funding	Questionnaire	Nominal, Likert	Percentage, Mean, Standard deviation, correlation, Regression Frequencies	Bar charts

1 **CHAPTER FOUR**

DATA ANALYSIS, PRESENTATION, INTERPRETATION AND DISCUSSION

4.1 Introduction

This chapter focused on data analysis, interpretation and presentation and presents the discussion and conclusion of the study. The purpose of this study was to establish factors influencing development of roads infrastructural projects in informal settlements in Kenya.

7 4.2 Questionnaire Return Rate

From the study sample of 277 respondents, 261 responded by filling the questionnaires for analysis. This constituted 94% response rate and as per Babbie (2002), a response rate of 50% and above is adequate for data analysis. The researcher used frequency tables and percentages to represent data as shown in table 4.1.

Table 4.1 Return rate for questionnaires

	Frequency	Percent (%)
Responded	261	94
Not responded	16	6
Total	277	100

4.2.1 Reliability Test

1
In this study, Cranach's alpha was used to test the reliability of the data as indicated in table 4.2 whereby the more closer of Cronbach's alpha to 1.0, the more the data is reliable. According to 32 George and Mallery (2003), 0.9=Excellent, 0.8=Good, 0.7=Acceptable, 0.6=Questionable, 0.5=Poor and below 0.5 not acceptable. For this study, 0.85 was obtained indicating that the data is more reliable and can be used for analysis.

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Table 4.2 Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	Number of items
.875	.866	18

2 4.3 General information About the Respondents

The study sought to establish the profile of the respondents in terms of gender, age bracket, category of stakeholder they represented during development of roads infrastructure, number of years they lived or worked in Kayole Soweto and the particular part of Kayole Soweto they lived or worked in. The following are the results.

4 4.3.1 Distribution of Respondents by gender

2
The study requested the respondents to indicate their gender as indicated in the table 4.3.

Table 4.3 Distribution of Respondents by Gender

Gender	Frequency	Percentage (%)
Male	140	54
Female	121	46
Total	261	100

¹ From the findings, 140 of the respondents were male while 121 were female. This means that both gender is impacted in one way or another by the development of roads infrastructural projects in Kayole Soweto and this implies that gender mainstreaming during development of roads infrastructural projects in Kayole Soweto was coordinated and facilitated as per the requirement of the country's 2010 constitution (Kenya Constitution, 2010).

⁴ 4.3.2 Distribution of Respondents by Age

The study requested the respondents to indicate the age brackets in which their ages fall ¹ as shown in table 4.4.

Table 4.4 Distribution of Respondents by Age

Age (years)	Frequency	Percentage (%)
18 – 24	47	18
25 – 30	58	22
31 – 34	39	15
35 – 40	39	15
41 – 44	21	8
45 – 50	33	13
51 – 60	15	6
Over 61	9	3
Total	261	100

From the findings, 18% were the majority ¹⁶ between the ages of 25-30 years, followed closely by age bracket of 18-24 years at 18%. 15% of the respondents indicated they were between the ages of 31-34 years and 35-40 years. 13% indicated their age falls between 45-50 years and 8% indicated their age was between 41-44 years. 6% of the respondents indicated their age was

between 51-60 years and 3% indicated that they were over 61 years. This shows that majority of the respondents were at their youthful age between 25-30 years and 18-24 years at 22% respectively. This implies that youth are the majority in the area and were willing to participate in this survey and may have been impacted on by the project in one way or another.

4.3.3 Distribution of Respondents by Stakeholders Category

The study requested respondents to indicate the category of stakeholders they represented during development of roads project in Kayole Soweto.

Table 4.5 Distribution of Respondents by Stakeholders Category

Stakeholder	Frequency	Percentage (%)
Structure/plot owner	37	14
KISIP team	10	4
SEC member	47	18
Business community	98	38
Village leader	22	8
Others	47	18
Total	261	100

From the findings, table 4.5 above shows that majority of representation was from business community at 38 % followed by both Settlement Executive Committee (SEC) and those who indicated they were tenants or villagers at 18% respectively. Structure or plot owners were at 14%, and those who indicated that they represented community in the project as village leaders were at 8%. 4% indicated that they represented KISIP team. This indicated that business community had been impacted by the roads project in bigger way and they were more willing to respond to the questionnaires.

4.3.4 Distribution of Respondents by Living and working duration

The study sought to establish the number of years the respondents have lived or worked in Kayole Soweto for purpose of establishing whether they integrated with the roads project during and after implementation.

Table 4.6 Distribution of Respondents by Living and working duration

Years	Frequency	Percentage (%)
1-10	98	37
10-20	83	32
20-30	38	15
30 and above	42	16
Total	261	100

From the findings, table 4.6 above indicates that 38% of the respondents have been in Kayole Soweto between 1-10 years, 31% 10-20 years, 15% 20-30 years, and 16% over 30 years. This indicated that 63% of the respondents have lived in the area of study for more than 10 years and therefore have interacted well with the project.

4.3.5 Distribution of Respondents by Area of residence

The researcher wanted to establish the part of Kayole Soweto the respondents live in.

Table 4.7 Distribution of Respondents by Area of residence

Cluster	Frequency	Percentage (%)
Muthaiga	28	11
Central	21	13
Shauri Yako	29	9
Bahati	23	11
Muoroto	35	13
Kibagare	31	12
Gitau	25	10
Mzesha	33	8
Patanisho	26	9
Others	10	4
Total	261	100

Table 4.7 indicates that 11% live in Muthaiga, 13% in Central, 9% in Shauri Yako, 11% in Bahati, 13% in Muoroto, 12% in Kibagare, 10% in Gitau, 8% in Mzeshu, 9% in Patanisho and 4% were from KISIP team. This indicates that the entire village and KISIP team were well represented for this study and therefore were in a position to influence development of roads infrastructural project either positively or negatively.

4.4 Influence of Community Participation on Development of Roads Infrastructural Project in Informal Settlement

The study sought to assess how community participation influenced development of roads infrastructural project in Kayole Soweto informal settlement as indicated in table 4.8.

Table 4.8 Influence of Community Participation on Development of Roads Project

Statements	Not at all	To a less extent	To a moderate extent	To a great extent	To a very great extent	Mean	Std-dev
Incorporation of community members opinion for collective action is of great importance in enabling timely completion of roads network	82	12	52	85	30	3.33	.58
local people and outsiders concern to share their knowledge to create new understanding for purpose of action was and is considered during development of roads project	51	109	48	33	20	2.25	.55
Co-opting representation of community members in development of roads projects in Kayole Soweto has been put in place	0	23	51	153	34	3.22	.50
Community opinions are sought through consultations and decision on course of action is taken based on those opinions.	13	32	141	46	29	3.79	.71
Managers of roads project in Kayole Soweto have been collaborating with local people to determine priorities.	11	10	38	160	42	4.90	.80
Community members has the responsibility of directing the process of roads project in Kayole Soweto	17	12	36	173	23	4.50	.88
Communication between project managers, Community members and outsiders is assisting in resolving grievances during roads development project in Kayole Soweto	2	13	42	179	25	3.58	.75

Cartels influence in advocating for handouts for community to participate in the project is hindering progress of roads project in Kayole Soweto	158	38	32	26	7	2.14	.76
Due to wide spread poverty in Kayole Soweto, Community members do not participate in roads project in the area	51	127	40	32	11	2.34	.67

The study shows that community participation has a great influence in development of roads infrastructural projects in informal settlements. 85 respondents greatly agreed that incorporation of community members opinion for collective action is of great importance in enabling timely completion of roads network with a mean of 3.33 and standard deviation of 0.58, while 109 agreed that local people and outsiders concern to share their knowledge to create new understanding for purpose of action was and is considered during development of roads project at a smaller extent with a mean of 2.25 and standard deviation of 0.55. Another 153 respondents agreed that Co-opting representation of community members in development of roads projects in Kayole Soweto has been put in place at a greater extent with a mean of 3.22 and standard deviation of 0.53. Also 141 respondents agreed that Community opinions are sought through consultations and decision on course of action is taken based on those opinions at a greater extent with a mean of 3.79 and standard deviation of 0.71. However majority of the respondents (160) agreed that managers of roads project in Kayole Soweto have been collaborating with local people to determine priorities at a greater extent with a mean of 4.90 and a standard deviation of 0.80. Community members also have the responsibility of directing the process of roads project in Kayole Soweto by support of 173 respondents to a great extent with a mean of 4.5 and standard deviation of 0.88. Majority of respondents (179) agreed that communication between project managers, Community members and outsiders is assisting in resolving grievances during roads development project in Kayole Soweto to a great extent with a mean of 3.58 and standard deviation of 0.75. Majority of respondents (158) with a mean of 2.14 and a standard deviation of 0.76 did not agree that cartels influence in advocating for handouts for community to participate in the project hindered progress of roads project in Kayole Soweto. Finally, 127 respondents with a mean of 2.34 and a standard deviation of 0.67 agreed to a less extent that Kayole Soweto community members do not participate in roads project in the area because of poverty.

4.5 Influence of community culture on development of roads infrastructural project in informal settlements.

The study sought to assess how community culture influenced development of roads project in Kayole Soweto informal settlement as indicated in table 4.9.

Table 4.9 Influence of community culture on development of road projects in informal areas

Statements	Not at all	To a less extent	To a moderate extent	To a great extent	To a very great extent	Mean	Std-dev
Community culture and values permeate all aspects of lives thus impacting on development of roads in informal settlements	11	25	72	43	10	3.82	.63
Community culture is fundamental for sustainable roads project in informal settlement	8	120	55	39	39	3.12	.71
Community culture is a powerful contributor to economic and infrastructural development in Kayole Soweto informal settlements	70	19	40	95	37	3.91	.57
Community culture ensures social stability and environmental protection during development of roads in Kayole Soweto.	106	48	50	49	8	2.32	.64
Community culture defines the way Kayole Soweto residents interact during and after development of roads.	3	88	64	93	13	3.32	.69
Fear of change behavior towards improvement of informal settlements affected development of roads in Kayole Soweto settlement	13	22	70	136	20	4.12	.75

⁷⁵ The study shows that majority of the respondents (72) agreed that community culture and values permeate all aspects of lives thus impacting on development of roads in informal settlements at moderate extent with a mean of 3.82 and standard deviation of 0.63. Another 120 respondents agreed that community culture is fundamental for sustainable roads project in informal settlement at smaller extent with a mean of 3.12 and standard deviation of 0.71. 95 respondents agreed that Community culture is a powerful contributor to economic and infrastructural development in Kayole Soweto informal settlements at a greater extent with a mean of 3.91 and standard deviation of 0.57 while 106 respondents disagreed that community culture ensures social stability and environmental protection during development of roads in Kayole Soweto with a mean of 2.32 and standard deviation of 0.64. However 93 respondents agreed that Community culture defines the

way Kayole Soweto residents interact during and after development of roads with a mean of 3.32 and standard deviation of 0.69. Finally, 136 respondents agreed that Fear of change behavior towards improvement of informal settlements affected development of roads in Kayole Soweto settlement at a greater extent with a mean of 4.12 and standard deviation of 0.75.

4.6 Community leadership and development of roads infrastructural projects in informal settlements

The study sought to establish whether community leadership has influenced in one way or another development and timely completion of roads project in Kayole Soweto. Table 4.10 shows responses where respondents were requested to agree or disagree.

Table 4.10 Influence of community leadership on development of roads projects in informal areas

Opinion	Frequency	Percentage (%)
YES	218	84
NO	43	16
Total	261	100

From the findings, majority of the respondents at 84% indicated that community leadership has influenced development and timely completion of the roads whereas 16% indicated they have not. This shows that community leaders are key in development and timely completion of community projects.

4.6.1 Respondents opinion on Influence of Community leadership on development of roads infrastructural projects in informal settlements

The study further established the reasons as to why the respondents agreed to the statement that community leadership influenced development and timely completion of roads project in Kayole Soweto where table 4.11 shows their agreement with the level of influence.

Table 4.11 Respondents opinion on influence of community leadership on development of roads projects in informal settlements

Statement	Frequency	Percentage (%)
Through cooperation, they enabled accessibility to the entire village	75	29
Through mobilizing and sensitizing communities	10	4

They oversees and supervises the project and where necessary give directions	3	1
They secured project materials	5	2
Resolved conflict during project implementation	6	2
They participated in project activities	12	5
They ensured atmosphere for working and stability within the settlement	4	2
Said yes but they did not give their opinion	146	55
Total	261	100

From the findings, 29 % stated that through community leader’s cooperation with project team, accessibility to the entire village was enabled. 5% of them stated that they influenced through participation in project activities, 4% stated that they mobilized and sensitized the community on the project, 2 % stated that they secured project materials, resolved conflict and ensured good atmosphere for working through stability within the settlement. However, 55% of respondents agreed to the statement but did not give their opinion.

4.6.2 Power exercised by Kayole Soweto Leaders to influence stakeholders participation on roads infrastructural

The study sought to establish the style of power Kayole Soweto community leaders used in getting stakeholders to participate in roads project as indicated in table 4.12.

Table 4.12 Power exercised by community leadership to influence stakeholders participation

Power exercised	Frequency	Percentage (%)
Political/position power	47	18
Information power	202	77
Punitive power	8	3
Reward power	4	2
Total	261	100

From the findings, 77% of the respondents indicated that Kayole Soweto leadership used information power in getting community or stakeholders to participate in development of roads project in the area. 18% indicated that political or position power was key in getting stakeholders

to participate, 3% indicated punitive power and 2% indicated reward power. This indicated that by use of information power, Kayole Soweto leaders were able to convince stakeholders to participate in roads project in the area.

4.6.3 Community leadership influence on development of roads project in Kayole Soweto informal settlement

The study sought to establish the extent of influence community leadership had on development of roads infrastructural project in Kayole Soweto. ⁷⁶ Table 4.13 shows the results.

Table 4.13 Community leadership influence on development of roads project in Soweto

Statements						Mean	Std-dev
	Not at all	To a less extent	To a moderate extent	To a great extent	To a very great extent		
Kayole Soweto's visionary leadership have enabled managers of roads project to work with the community to realize the project goal	1	2	34	198	26	4.21	.63
Due to inclusive leadership, community members embraced development of roads in Kayole Soweto	1	6	36	49	169	4.56	.71
Kayole Soweto leaders have NOT been influenced by negative attitude, thoughts or feeling to abandon their role in development of roads in the area	56	64	72	50	19	3.23	.58
Kayole Soweto leaders have been grounded in a clearly and articulated values throughout the process of development of roads in the area.	2	143	45	53	18	2.56	.67
Community leadership is committed to improving the quality of life in Kayole Soweto through development of roads	102	36	39	51	33	1.92	.61

⁷ From the findings, majority of the respondents at 198 out of 261 agreed to a great extent that Kayole Soweto's visionary leadership have enabled managers of roads project to work with the community to realize the project goal at a mean of 4.21 and standard deviation of 0.63. Another ²⁹ 169 agreed to a very great extent that due to inclusive leadership, community members embraced

development of roads in Kayole Soweto with a mean of 4.56 and standard deviation of 0.71. On whether Kayole Soweto leaders have been influenced by negative attitude, thoughts or feelings to abandon their role in development of roads in the area, the numbers were distributed evenly on the Likert scale with majority agreeing with a slight 72 out of 261 respondents with a mean of 3.23 and standard deviation of 0.58. A majority of 143 respondents agreed to a less extent that Kayole Soweto leaders have been grounded in a Clear and articulated values throughout the process of development of roads in the area to a mean of 2.56 and standard deviation of 0.67. Majority of 102 respondents agreed to a less extent that community leadership is committed to improving the quality of life in Kayole Soweto through development of roads with a mean of 1.92 and standard deviation of 0.67.

4.7 Project funding and development of roads infrastructural projects in Kayole Soweto

Table 4.14 shows responses where respondents were requested to rate the extent to which the given statements influenced development of roads project in Kayole Soweto using a scale of 1- strongly agree, 2-disagree, 3-moderately agree, 4-agree and 5- strongly agree.

Table 4.14 Influence of project funding on development of road projects in Kayole Soweto

Statements						Mean	Std-dev
	Not at all	To a less extent	To a moderate extent	To a great extent	To a very great extent		
Costing and financing of roads project have been the reason of delayed completion of the project in Kayole Soweto	7	106	40	84	24	2.43	0.72
Timely disbursement of funds affected development of roads in Kayole Soweto	3	48	111	59	40	3.41	0.69
Project funding timelines cost hindered development of roads in Kayole Soweto	4	41	33	83	100	4.24	0.63
Effects of inflation is the reasons of delayed completion of roads in Kayole Soweto	4	114	40	69	34	3.11	0.71
Effects of corruption on project funding influenced timely completion of roads in Kayole Soweto	10	24	24	40	163	4.52	0.59

From the findings, majority of the respondents at 106 rated to less extent that costing and financing of roads project have been the reason of delayed completion of the project in Kayole Soweto with

a mean of 2.43 and standard deviation of 0.72. Majority by 111 of 261 respondents rated to a very great extent timely disbursement of funds affected development of roads in Kayole Soweto with a mean of 3.41 and standard deviation of 0.69. 114 respondents stated that effects of inflation is the reason as to why completion of roads project in Kayole Soweto was delayed with a mean of 3.11 and standard deviation of 0.71. 163 stated that effects of corruption on project funding influenced timely completion of roads in Kayole Soweto with a mean of 4.52 and standard deviation of 0.59.

4.8 Development of roads infrastructural projects in informal settlements

The study sought to assess the benefits of development of roads in Kayole Soweto informal settlement and various dimensions were examined as per table 4.15.

Table 4.15 Development of roads infrastructural projects in informal settlements

Statements						Mean	Std-dev
	Not at all	To a less extent	To a moderate extent	To a great extent	To a very great extent		
Through community participation, number of developed functional roads in Kayole Soweto have increased.	6	6	18	160	71	4.61	0.69
Number of new business opportunities due to new roads network have increased.	0	14	15	72	160	4.71	0.70
There have been new village openings and connections to the neighbourhood due to developed roads in Kayole Soweto	10	12	27	155	57	4.54	0.71

According to the rating expressed in table 4.15, 160 respondents rated to a great extent that through community participation, number of developed functional roads in Kayole Soweto have increased at a mean of 4.61 and standard deviation of 0.67. Another 160 respondents rated to a very great extent that the number of new business opportunities due to new roads network have increased with a mean of 4.71 and a standard deviation of 0.70. 155 respondents rated to a great extent that there have been new village openings and connections to the neighbourhood due to developed roads in Kayole Soweto with a mean of 4.54 and standard deviation of 0.71. As per the findings, majority of the respondents agreed that community participation is key to the success of roads project and the impact thereof.

4.8.1 Distribution of respondents by level of satisfaction on completed roads project

Table 4.16 sought to establish the level of satisfaction of Kayole Soweto people on the completed roads in the area.

Table 4.16 Distribution of respondents by levels of satisfaction on completed roads project

Levels of satisfaction	Frequency	Percentage (%)
Low	2	1
Moderate	24	9
High	198	76
Very high	37	14
Total	261	100

⁴⁷ From the findings, majority of the respondents at 198 (76%) indicated a high level of satisfaction. This means that most of the residents of kayole Soweto area were highly satisfied with the road projects in the area. Considering the other responses of low and moderate satisfaction, future researchers can find out the reason as to why they were not happy with the project.

4.16 Inferential Analysis

The following regression model was applied to measure variables (community participation, community culture, community leadership and project funding) in regard to development of roads infrastructural projects in informal settlements a case of Embakasi East Constituency in Nairobi Kenya. The regression model was as follows:

$$y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \epsilon$$

Where:

Y = development of roads infrastructural projects in informal settlements.

β_0 = Constant Term

β_1 = Beta coefficients

X_1 = Community participation

X_2 = Community culture

X₃= Community leadership

X₄ =Project funding

7
Table 4.17 Regression Coefficients

	Unstandardized		Standardized	t	Sig.
	Coefficients		Coefficients		
	B	Std. Error	Beta		
(Constant)	1.123	1.214		0.735	0.001
Community participation	0.109	0.176	0.109	0.512	0.043
Community culture	0.106	0.192	0.019	0.147	0.031
Community leadership	0.212	0.201	0.237	1.209	0.047
Project funding	0.232	0.206	0.246	1.208	0.049

b Dependent Variable: development of roads infrastructural projects in informal settlements

52
The following regression analysis was obtained:

$$Y = 1.123 + 0.109X_1 + 0.106X_2 + 0.212X_3 + 0.232X_4$$

60
The model illustrates that when all variables are held at zero (constant), the value development of roads infrastructural projects in informal settlements would be 1.123. However, holding other factors constant, a unit increase in community participation, would lead to a 0.109 increase in development of roads infrastructural projects in informal settlements, a unit increase in positive community culture would lead to a 0.106 increase in dependent variable, a unit increase in community leadership would lead to 0.212 increase in dependent variable (development of roads

infrastructural projects in informal settlements) and finally a unit increase in project funding would lead to 0.232 increase development of roads infrastructure project. The study further shows that there is a significant relationship between roads infrastructural projects in informal settlements and community participation, community culture, community leadership and project funding since all the significant coefficients were less than 0.05 significant level.

Table 4.18 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.799 ^a	.610	.317	.71216	.010	.362	4	256	.835

a. Predictors: (Constant), Community participation, community culture, community leadership, project funding

Table 4.18 shows a model summary of regression analysis between dependent and independent variables. The value of R (correlation coefficient) is 79.9%, which shows high positive relationship between the independent variables, the value of coefficient of determinant (R^2) is 61% this is a perfect model since it is capable of explaining 61% of the variability. Most models that can explain more than 40% of the variability can be taken as a useful model. This is an indication that the model is a very good predictor overall since $R^2 > 60\%$.

Table 4.19 ANOVA

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	.734	4	.184	.362	.004 ^b
	Residual	130.299	256	.507		
	Total	131.033	260			

a. Dependent Variable: development of roads infrastructural projects in informal settlements

b. Predictors: (Constant), Community participation, community culture, community leadership, funding's

²³ The study used ANOVA to establish the significance of the regression model from which an f -tabulated value $p < 0.004$ was established. This shows that the regression model has a less than 0.004 likelihood (probability) of giving a wrong prediction.

² CHAPTER FIVE

SUMMARY OF THE FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter presents summary of the findings, conclusion and recommendations on factors influencing development of roads infrastructural projects in informal settlements in Kenya a case of Embakasi East Constituency, Kayole Soweto informal settlement.

⁵⁹ 5.2 Summary of the findings

A summary of the findings based on the study are presented following the objectives of the study.

5.2.1 Community participation and roads infrastructural projects in informal settlements.

The study revealed that community participation plays a crucial role in the road infrastructure development projects in informal settlements. Incorporation of community member's opinion was very important for collective action since local people share their knowledge to create new understanding for the purpose of action during road construction or implementation stage. In order to involve local residents, the study revealed that community opinions were sought through consultation and also managers or construction team has been in collaboration with local people to determine local priorities as the project concern. The study also revealed that good communication between project manager's community and outsiders assisted in resolving grievances during road construction. However the study further revealed that the involvement of cartels to influence in advocating for handouts for community to participate in the project is hindering progress of roads project in Kayole Soweto. ²² The findings are similar to Oakley and Marsden (2007) who posited that community' support brings together individuals, families, or communities who assume responsibility for their own welfare and develop a capacity to contribute to their own and the community's development. Also this study is being supported by study done

by UNICEF (2012) in Korogocho informal settlement on community participation that revealed that their participation in projects is key in completion of the projects in stipulated time.

5.2.2 Community culture and Road infrastructure development in informal settlements

Different communities have different cultures and values, Kayole Soweto is a multicultural area hence community culture did not play much roles in road infrastructure development as compared to other factors. The following were revealed by the study about community culture and its roles in road infrastructure development. The study revealed that community culture and values permeate all aspects of lives thus impacting on development of roads in informal settlements. Community culture also was fundamental for sustainable roads project in informal settlement. Also community culture is a powerful contributor to economic and infrastructural development since it ensures social stability and environmental protection during development of roads in Kayole Soweto. However the study revealed community culture defines the way Kayole Soweto residents interact during and after development of roads. Finally Fear of change behavior towards improvement of informal settlements affected development of roads in Kayole Soweto settlement.

5.2.3 Community leadership and road infrastructure development in informal settlements.

The study was able to find that managing people, their opinions and changes they request are important in road infrastructure development projects as it removes confusion and occasional conflicts in the project. However it was noted that skilled and experienced management was much desired for the success of these projects. The study revealed that Kayole Soweto's visionary leadership have enabled managers of roads project to work with the community to realize the project goal. Due to inclusive leadership, community members embraced development of roads project in Kayole Soweto. The study further revealed that leaders have been grounded in a clearly and articulated values throughout the process of development of the project. This study concurred with the study done by Pamoja Trust (2009) an NGO based in Nairobi, which revealed that project leadership has proved to be of great importance in Huruma informal settlement during road infrastructure projects. The study also demonstrated the importance of a people led process in improvement of their neighborhood and environment in their settlements.

5.2.4 Project funding and road infrastructure development in informal settlements.

The study revealed that costing, timely disbursement of fund and financing of roads project have been the reason of delayed completion of the project in Kayole Soweto. The study also revealed that effects of funding inflation and corruptions on project is one of the reason of delayed

completion of roads in Kayole Soweto. According to Porter (1985), looking at projects financial costs and benefits without taking strategic risk assessment into account, one might easily pursue the less favorable project. Delayed and inefficient funding results in lack of attention in maintaining strategic flexibility thereby affecting the ultimate goal.

5.3 Conclusions

The following conclusions were made from the study:-

The study concluded that the local residents were involved in the road infrastructure development projects and their opinion were well taken and implemented to avoid any conflict between constructor and local residents. Involvement of local residents resulted in the success of road projects in the area. They participated in the initiation/start of the road development project when they were consulted through a meeting and offered manual labor at the construction site. This implies that the local residents' participation was critical in the implementation of the road infrastructure development projects in the county. Involvement of all players determined the efficiency and sustainability of the projects. The study also concluded that those who managed the road development projects in informal settlements responded adequately to concerns whenever raised. People appointed to manage roads project in the area were effective in their work and they tried to consult the local residents. The study also found out that connection with the neighbourhood through roads infrastructural projects increased economic activity in the area. The study also concluded that for the project to be successful there must be a proper funding and timely releasing of the fund to stop any delays of the initiation of the road projects.

5.4 Recommendations of the study

The following recommendations are made from the study:-

- 1) The level of player's participation in the project planning and implementation should be increased to enhance the sustainability of the projects in the county
- 2) The cartels should not be allowed to interfere or to influence any part of the road infrastructure projects.
- 3) The project management should seek to adopt modern technology through increased budgetary allocations.
- 4) The government should institute stringent measures to deal with persons vandalizing the project. This should be coupled with improved security offered by the security agencies to mitigate the cases of vandalism.

- 5) The development projects should be managed by highly competent personnel to increase its efficiency and sustainability.

⁸ 5.6 Suggestions for further studies

Since this study was on the factors influencing development of roads infrastructural projects in informal settlement of Kayole Soweto;

- i) Similar study should be done in other informal settlement targeted for improvement by Kenya Informal Settlement Improvement Programme like Mathare, Kahawa Soweto, Ziwa la Ngombe in Mombasa for comparison purposes and to allow generalization of findings on the factors influencing development of road infrastructural projects in Kenyas informal settlements.
- ii) Other studies should be conducted on the challenges facing the road infrastructure development in informal settlements.

FACTORS INFLUENCING DEVELOPMENT OF ROADS INFRASTRUCTURAL PROJECTS IN INFORMAL SETTLEMENTS IN KENYA: A CASE OF EMBAKASI EAST CONSTITUENCY IN NAIROBI COUNTY

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