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The Social Impacts of the Motheo Infrastructure Development Project on the Livelihoods of the Community of Palmridge

By

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Submitted in partial fulfilment of the requirements for the degree

MA Social Impact Assessment

in the

Department of Sociology

of the

Faculty of Humanities

at the

University of Johannesburg

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March 2019
Acknowledgements

First and foremost, I would like to thank the members of the community of Palmridge who volunteered their precious time to take part in this study irrespective of their busy schedules. Thank you for allowing me the opportunity to learn through sharing your experiences which also contributed to the body of knowledge in the field of Social Impact Assessment. Secondly, I would like to extend my greatest appreciation to my supervisors Prof Kezia Batisai and Ms Letitia Smuts for all your commitment and support towards me completing this Masters’ Dissertation. Your mentoring, and patience has been priceless without which I would not have made it this far. I would also like to thank the Department of Sociology that always open opportunities where students are able to interact and get support from one another. The weekly seminars and workshops contributed a lot to my understanding of how to improve my dissertation.

My appreciation also goes to my two daughters Noluthando Ubisi and Akanani Livhuwani Ubisi who always supported me and understood my inability to spend quality time with them at times. My sacrifices were efforts to encourage the two of you to work hard in life no matter the circumstances that you find yourselves in. Special thanks to Ms Dire my colleague who was very supportive towards my studies in many ways. Be it through reminding me of submissions, giving advice on literature and giving me emotional and spiritual support when days were dark.

To my late mother, Amelia Fanisani Ubisi, from the bottom of my heart I would like to thank you for having always encouraged me to follow my academic dreams. You have always been a pillar of my strength. Even in your physical absence I know that you are there spiritually, and you are proud of my achievements. “Ngcetshe, Ubisi!” you will always be remembered. I thank the Lord for giving me perseverance and being with me through a number of challenges I endured in the journey of completing my studies.
Abstract

Infrastructure development is desirable and essential for communities as it supports economic growth and social development goals. While infrastructure development is admittedly crucial, its construction comes with consequences that affect the ways in which people maintain their households. The proposal to develop infrastructure was warmly welcomed by the community of Palmridge residing in informal settlements and they were looking forward to it, until the constructions began to worsen their means of survival. The current study assessed how the impacts of the Motheo infrastructure development project affect the livelihoods of the community of Palmridge. A qualitative study was conducted through semi-structured interviews to capture the experiences of the heads of households. The study utilised the Sustainable Livelihoods Framework (SLF) to create an understanding of the activities’ assets and entitlements of participants, how these have been affected by the developments of infrastructure and what adaptive strategies do people employ to adjust to the changes. Although there are some elements of positive impacts, especially in terms of physical structures such as serviced stands, tar roads and the brick houses that are underway, the overall findings show that people’s access to resources necessary for livelihoods, has been negatively impacted. These resources include transport, which was said to be scarce and expensive such that people resort to walking long distances to different destinations. On the other hand, walking long distances was reported to be a challenge especially for women and children, the elderly and people with disabilities. The community reported loss of contact with their former networks which were crucial towards support of their livelihoods, while the processes of establishing trusting relationships with the new neighbours renders them helpless in times of need. The loss of grown gardens and unavailability of tap water in other stands has compromised food security for other households and affect their financial resources. The study also found that the new area does not support some of the community’s previous economic activities, thus worsening the living standards of the affected households. The analysis of impacts on the basis of gender has also shown that women were more vulnerable compared to their male counterparts. The study revealed that the lack of effort invested in preserving the livelihoods of households during the processes of developing infrastructure, has resulted in many people being unable to re-establish their ways to maintain themselves in the new area. It emerges clearly that the necessity of service delivery cannot substitute the importance of protecting the livelihoods of the affected populations. The study concludes that, if interventions are to be successful in communities, development authorities must prioritise genuine inclusion of the local community. Public participation should be used as a platform where the affected population can give input and influence decisions. It also suggests that follow up studies are critical in every development project to ensure that impacts that surface beyond the projection phase are addressed.
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CHAPTER 1: INFRASTRUCTURE DEVELOPMENT IN PALMRIDGE

1.1 Introduction

Infrastructure development can greatly contribute to the growth and wellbeing of communities; however, infrastructure development carries consequences that change the way people survive and make their livelihoods. Infrastructure development and its effects on livelihoods is an issue that has been contested by many scholars (Rossouw & Malan 2007; Scudder 2012; Tilt, Braun & He 2009; Vanclay 2002). At the core of the issue is the fact that the affected communities are subjected to changes in their way of life. Furthermore, it has become evident that, while some people are able to respond positively to the changes, others become vulnerable and suffer considerably.

Nonetheless, the government of South Africa has emphasised the importance of improving service delivery and addressing the inequities of the past and recognise that this needs to be done in a sustainable way. The Bill of Rights of the Constitution of the Republic of South Africa (RSA Constitution, Chapter 2) was promulgated in 1996 by the government that was democratically elected in 1994. The Constitution envisages a more equal and inclusive economy for its citizens. The Bill of Rights assures citizens that they have the right to access infrastructure such as housing, health care services, water and sanitation, refuse removal, electricity, education and security. In this context, access to infrastructure is a basic human right to ensure that all people can equally contribute in the economy and society in general. Post-democratisation in South Africa meant that, local government is constitutionally responsible for the economic and social development of their communities. Each municipality is therefore responsible to cover all communities in its area of jurisdiction. At the heart of the City of Ekurhuleni’s (CoE’s) plans and service delivery operations are the communities of Tembisa, Katlehong, Vosloorus, Duduza, Daveyton and Thokoza that collectively house over 68% of the city’s total population (CoE, Integrated Development Plan [IDP] 2019:18).

The CoE acknowledges that the connection of rapid population growth prompted by in-migration, the historical backlogs and lacklustre housing delivery has resulted in a phenomenon of low intensity land invasions and the growth of informal settlements (CoE, IDP 2019:39). In responding to these challenges, the city is in a process of delivering spatially integrated human settlements to its informal settlements which lack access to basic infrastructure and resources. Remarkable strides have been made in the provision of services such as electricity, water and refuse removal to the communities within the metropolitan. However, the city continues to face challenges of an increasing backlog for infrastructure for those who live in informal settlements. With regard to water and sanitation,
chemical toilets are provided as an interim service delivery measure, while on the other hand proper sanitation is being delivered as well; with a ratio of 1 chemical toilet to 5 households in the informal settlements, and free basic sewer of 6 kilolitres per household per month to all households in Ekurhuleni (CoE, IDP 2019:43). The city reports that informal settlements are the main areas where majority of people are living without formal housing, electricity, tap water, tar roads and waste disposal services. The CoE has a mandate to deliver services and therefore accepts responsibility for the above deliverables. Palmridge, is one of the townships within the metropolitan where the demand of services surpasses that of supply, which is exacerbated by the lack of infrastructure. The Motheo infrastructure development project was initiated in 2012. The aim is to deliver basic services which include housing units, improved water and sanitation, electricity connections, road construction, as well as development of facilities for the informal settlement of Palmridge Extension 9 Phases 5 and 6.

Sustainable and impartial development requires that social and economic impacts, as well as environmental impacts, are taken care of throughout the life cycle of a project (Franks & Vanclay 2013:40). This is where Social Impact Assessment (SIA) was introduced for project organisers to understand how individuals will affect and be affected by developments. SIA is carried out to identify the main stakeholders and create a suitable framework for their involvement in the different phases of the project known as project selection, design, implementation, monitoring, and evaluation (Reitbergen-McCracken & Narayan 1998:20). Furthermore, it also ensures that project objectives and incentives for change are relevant to those who should benefit from the interventions and that the feasibility of a project and the risks that it carries are assessed and addressed early (Reitbergen-McCracken & Narayan 1998:20).

The Sustainable Livelihoods Framework (SLF) has been utilised in a number of studies to inform social impact practises. With its focus on assets, it has been helpful in identifying and enhancing household capacity and resilience to changes that affect their way of life (Vanclay & Esteves 2015:323). Additionally, the SLF recognises that human development and economic growth is dependent on livelihoods (Helmore & Signh 2001:3). Livelihood assets comprise of tangible resources and human capabilities to create, use, maintain, and improve them and can be expressed as the financial, physical, natural capital as well as human and social capital (Neefjes 2010:87). Livelihood studies are able to shed light on challenges that the affected people experience following the disruptions caused by infrastructure developments and the strategies that they employ to deal with difficult circumstances. Given that this study was conducted after the implementation phase of the infrastructure developments, it can be seen as an ex-post study. An ex-post or ‘after the event’ study is a follow-up study conducted after the construction stage of the developments (Rossouw & Malan
The importance of this study lies in the fact that impacts associated with infrastructure development projects change with time owing to changing economic and social conditions (Rossouw & Malan 2007:10). This is confirmed by Burdge (1990:92) who says impacts associated with infrastructure development projects are highly site-specific and dependent upon unique interaction between the community and development projects.

This study aims to highlight the need for follow up studies since these are often undermined during developments while they have a vital role in adjusting project processes and activities in support for sustainability of livelihoods for the affected communities. The study will discuss the legal framework that govern infrastructure development, which will be used to outline the application of the theory of sustainable livelihoods. Focus will be on the five livelihood assets (human capital, social capital, natural capital, physical capital and financial capital) that households had access to before the developments of infrastructure in Palmridge, how these have been affected and the strategies that households apply in order to deal with the changes that they are experiencing.

### 1.2 Problem statement

Infrastructure development is desirable and essential for communities, since it supports economic growth and social development goals (National Planning Commission [NPC] 2012). While delivery of such services is crucial, the right to an environment that is not detrimental to people’s wellbeing and to have the environment safeguarded in support of the existing and forthcoming generations cannot be undermined (National Environment Management Act 1998; Neefjes 2000:85). This can be achieved through reasonable legislative and other measures that:

1. prevent pollution and ecological degradation;
2. promote conservation; and
3. secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development (Constitution of the Republic of South Africa 1996:9).

Although infrastructure developments contribute to the wellbeing of communities, studies such as the “Managing of cumulative impacts of coal mining on regional communities and environments in Australia” by Franks, Brereton and Moran (2010) and the “Ex-post analysis of the Berg River Dam, South Africa” by Rossouw and Malan (2007) have shown that development processes can lead to social change processes which can have undesirable impacts, particularly on ways that people survive.
The South African government has legislative frameworks that support the development of infrastructure for communities such as the Bill of Rights Chapter 2 in the Constitution of the Republic of South Africa (1996), the National Development Plan 2030 (2012), the Infrastructure Development Act (2014), and The National Environment Management Act (1998). These policies emphasise the need to provide adequate infrastructure, because lack of infrastructure perpetuates inequalities and stagnates economic growth in communities. Additionally, these policies advocate that, as much as infrastructure is a necessity, its development should not harm the environment neither the people nor ways in which they make a living. The SLF is seen as an analytical framework to understand the multifaceted forces that condition people’s sources of income and situations of poverty, and as a foundation for assessing the effectiveness of interventions in achieving poverty reduction (Hall & Midgley 2004:98).

Studies that project anticipated impacts as part of an ex-ante or ‘in advance’ process have a limited ability to address the actual impacts that emerge during and after the construction phase of developments. Rossouw and Malan (2007:10) concur that ex-ante studies have a limited scope to affect broader sustainability issues. This study, against the backdrop of scarcity of follow-up research on social impacts of infrastructure development projects, assesses the social impact of the Motheo infrastructure development project on the livelihoods of the community of Palmridge Ext. 9 Phases 5 and 6 (called “Palmridge” henceforth). The purpose of this qualitative study is to explore the actual experienced impacts at an individual and household level. This will be in either a corporeal (physical) or cognitive (perceptual) sense as a response to social change processes evoked by interventions (Vanclay 2002:191).

1.3 Core objectives and questions of the research

The objective of the study is to understand how infrastructure development affected the livelihood capitals that households in Palmridge were surviving from. The study will do this by placing focus mainly on the livelihoods to explore how the capitals of households have been affected and how they are dealing with the changes. The objectives of the study gave rise to the following research question:

“How are the social impacts of the Motheo infrastructure development project on the livelihoods of the community of Palmridge Ext. 9 Phases 5 and 6?”

The following sub-questions were asked in order to address the main research question:

- How does the community of Palmridge Ext. 9 Phases 5 and 6 perceive the changes that the infrastructure development project brought?
• What livelihood strategies do Palmridge Ext. 9 Phases 5 and 6 community members use to respond to the changes?

1.4 Description of the research site

The research site is Palmridge, which is located in the East of Johannesburg. Palmridge is a township which has an informal settlement known as Extension 9 Phases 5 and 6 and is situated within Region F, under the CoE. The CoE occupies 1975km\(^2\) of the land area in the province of Gauteng. The city’s population is reportedly growing rapidly since its formation in the year 2000. Census data of 2001 recorded the population as 2368283 (Stats SA 2011). However, the numbers are confirmed to have grown to 3379104 with 51% of the population within the city being males. Females account for 49% (Stats SA 2016). In-migration is allegedly an important feature of growth in the city. CoE officials in the Siluma office also confirmed that developments in the city have contributed in attracting many people who come to join informal settlements with the hope of getting formal houses in the near future.

The City of Ekurhuleni reports a high unemployment rate with less than half of its total population being economically active. Improvement in the level of education is acknowledged, as the city unceasingly reports growing numbers of its inhabitants with “matric” or higher education since the year 2011 (CoE, IDP 2019:37). The average annual household income within the city is R 29400 however the city is currently reviewing its indigent policy to look at different income categories and rationalising the provision of free basic services (CoE, IDP 2019:25). Generally, the population of the city speak all the 11 official languages in South Africa and more. The City of Ekurhuleni has 1299490 households and as per the household survey conducted in the year 2016, 18.7% of these households are living in informal structures (CoE, IDP 2019:24). The above statistics are important as they lay out the socio-economic status of the area under investigation and livelihood resources of households in the area.
Figure 1. Map of Region F in the City of Ekurhuleni

The Locality Plan below is of Palmridge Ext. 9. Palmridge Ext. 9 has formal planned residential areas and informal settlements. Many stands in the development area have more than one dwelling and the households that received formal housing in the previous years have backyard dwellings.
Figure 2. Aerial Photograph of Palmridge Extension 9
1.5 Chapter outline

Chapter two presents the literature review on the social impacts of infrastructure development projects and provides a theoretical overview of infrastructure development. As background to understanding the process of infrastructure development, the study outlines the international and South African legislation. The SLF was used to find connection between people, their livelihoods and their environment and how changes to their environment can affect their way of life.

Chapter three gives an overview of the research methods used to understand the impact of infrastructure development on the community of Palmridge. The chapter outlines the use of the qualitative approach used to explore the experiences of the households when their livelihoods were affected by the social change processes invoked by the Motheo infrastructure development project. It further offers an overview on the use of snowball technique to get a sample of eight research participants to participate in the semi-structured interviews. The themes that emerged from the collected data were used to address the research question of the study. The limitations of the study as well my reflections will also be discussed.

Chapter four provides an overview of the research findings with a focus on the livelihoods of households before the development of infrastructure, how the developments have affected their livelihood capitals and how are they dealing with the changes. The chapter draws on the personal experiences of the affected households. It presents the findings and gives answers to the research question including analysis of data. This chapter also focuses on the process of public participation to establish how involved the community was in the development process of the infrastructure planning and development in Palmridge.

Chapter five brings the study to a close and draws conclusions based on the analysis of the experiences of the participants. The achievement of the goals and objectives of the study are also discussed. This chapter uses the findings of the study to make recommendations on how community capacity can be enhanced to manage its key capitals in the face of changes and threats to their way of life.

1.6 Conclusion

This chapter outlined the importance of infrastructure development in South Africa and noted the need to balance this with the responsibility to ensure the maintenance of livelihoods. The study is introduced as an ex-post study and the Sustainable Livelihoods Framework is proposed as the theoretical framework for this research project. The chapter continues to describe the need for the study by referring to other research projects that highlighted negative impacts when an ex-post study was conducted. Furthermore, the chapter introduces the problem and the study objectives.
Thereafter, the policy thrust for infrastructure development is mentioned. Finally, the chapter turned to providing a short background of the community of Palmridge and placed the study area geographically within the CoE.
CHAPTER 2: A REVIEW OF LITERATURE ON LIVELIHOODS AND INFRASTRUCTURE DEVELOPMENT

2.1 Introduction

This study assessed the social impacts that resulted from the development of infrastructure in a place where people reside. According to Gnade, Blaauw and Greyling (2016:1), infrastructure development promotes economic growth and social development. Furthermore, it can assist in addressing inequality in societies. As discussed in chapter 1, a fairly large body of literature on social impacts has shown that, although infrastructure developments can tremendously contribute to the growth and wellbeing of communities, its development carry consequences that can affect people’s livelihoods in various ways.

Moreover, impacts associated with infrastructure development projects have been found to change over time due to the varying economic and social state of affairs. However, little attention has been given to follow-up assessments on the social impacts of infrastructure development projects, resulting in an incorrect representation of project impacts. In so doing, the actual impacts that emerge during project implementation are ignored.

Participatory approaches that involve the project-affected people can assist in identifying the scope and extent of impacts and in ensuring a correct representation of project impacts. This chapter positions the study to respond to its main research question which asks: “What are the social impacts of the Motheo infrastructure development project on the livelihoods of the community of Palmridge Ext. 9 Phases 5 and 6?” by reviewing the existing literature. The chapter is organised into two sections. In the first section, infrastructure development is broadly explored in order to lay the foundation for assessing the social impacts that resulted from the development of infrastructure in Palmridge. Furthermore, an understanding of social impact assessment and participatory development will be provided. The second section focuses on literature relating to the SLF, which is the theoretical framework for this study. The impacts of infrastructure development on livelihood assets will also be discussed as well as the link between livelihoods and gender.

2.2 Infrastructure development

As the world population continues to grow, there is an ever-increasing need for huge investments in infrastructure. Infrastructure development in many countries is viewed as the most significant factor which contributes to production growth because of its ability to encourage economic activities, productivity and improving the quality of life (Chiloane & Aigbavboa 2016:87). Thus, availability of
infrastructure facilities is identified as a major vehicle to achieving equality and poverty reduction (Gnade et al. 2016:2). Generally, infrastructure is divided into two categories: the economic and social infrastructure. The Development Bank of South Africa (DBSA) gives a distinction between the two. Economic infrastructure is defined as, “that part of an economy’s capital stock that produces services to facilitate economic production (e.g. electricity, roads and ports) or serves inputs to production or is consumed by households (water, sanitation and electricity)” (DBSA 2006:20). Social infrastructure on the other hand is “that which is developed at a household or community scale and is intended for the delivery of basic services such as health, education and recreation that have both a direct and an indirect impact on the quality of life” (DBSA 2006:20).

A study conducted by the United Nations (UN) has revealed that more than 60% of Africa’s population that lives in the urban areas experience some combination of overcrowding, low-quality housing, and inadequate access to clean water and sanitation (Lall, Henderson & Venables 2017:26). Therefore, Lall et al. add that this calls for a need to expand two sets of structures, namely physical and infrastructural, given that people are recurrently underserved by them. Similarly, the National Development Plan (NPC 2012:161) confirms that, for many South Africans, mainly in poor rural and peri-urban communities, accessing basic electricity, safe water, sanitation, telecommunications and public transport is a daily struggle. Furthermore, Musonda Okoro and Mwanaumo (2017:2) argue that in most African countries, especially the lower-income countries, shortage of infrastructure is the main constraint on doing business, and is confirmed to reduce productivity by around 40%.

An increasing body of literature studies the social and economic impact of infrastructure development in developing countries. There is a mutual understanding that provision of infrastructure should be able to improve economic growth and social development, while simultaneously improving people’s quality of life (DBSA 2006:15). Ukpere (2014:633) notes, that if poverty is to be reduced, indeed there is a need to provide basic infrastructure facilities to communities. Chiloane and Aigbavboa (2016:87) add that any developing country needs to provide infrastructure to improve the livelihoods of their citizens in order to provide the right quality of life. Estache and Garsous (2012:1) confirm that there is, indeed, an excessive amount of subjective and technical evidence which supports that better quantity and quality of infrastructure can directly promote productivity of human and physical capital and hence growth and poverty reduction. Furthermore, Gnade et al. (2016:3) point out that the welfare effect of communities that have access to basic infrastructure services is higher when compared to communities where certain components of infrastructure services are absent. For instance, a case study of spatial politics and infrastructure development in Gauteng, South Africa by McKay, Simpson and Patel (2017:2) found that deficit in public transport infrastructure and inefficient transportation networks has pushed for reliance on private vehicles for those that can afford
it. This, in turn, results in congestion on the roads, which is not good for the province as it leads to loss of income, decreased economic activity, repressed job creation and increased living costs. On the other hand, in their study of the impact of public transport infrastructure investment on transformation in the City of Johannesburg, Gumbo and Moswane (2017) confirm that improvement of infrastructure can attract people to use public transport to enhance its full functionality for the betterment of the economic, social and environmental benefits of the country and its citizens.

Nonetheless, there are many ways in which infrastructure has been found to affect economic growth and social development. For instance, increasing of electrical infrastructure has a strong impact on the output of business by minimising power outages and surges. Water and sanitation improve the productivity of businesses by protecting and even improving the health of the employees. Furthermore, access to electricity, water and sanitation also saves time and effort amongst the poor who would then be collecting wood and water. As a result, more time can be allocated to productive activities and investing in human capital (Gnade et al. 2016:4). Thus, theoretical and empirical evidence confirms the existence of a vigorous positive relationship between infrastructure and an increased quality of life.

2.2.1 Frameworks governing infrastructure development within the South African context

Infrastructure development is desirable and essential for communities. It supports economic growth and social development goals (NPC 2012). Equally, the Bill of rights (Chapter 2) of the Constitution of the Republic of South Africa (1996:5) envisages sustainable human settlements including housing, education, food and water, and access to health as well as culture and leisure activities. The democratic government of South Africa, elected in 1994, inherited widespread inequality and divided societies and recognises that infrastructure delivery constraints inhibit economic growth, social development and the reduction of poverty and inequality across the country. For this reason, the government endeavours to improve quality of life of all its citizens through provision of economic and social infrastructure (Gnade et al. 2016:2). This notion is confirmed by the Infrastructure Development Act of 2014, which states that infrastructure development promotes the creation of decent employment opportunities, skills development, training and education, especially for historically disadvantaged persons and communities, women and persons with disabilities. Subsequently the local sphere of government has been allocated the important role in the delivery of basic services, as well as infrastructure to support local economic development (DBSA 2006:20).

As discussed above, South Africa formally recognises the right to economic as well as social infrastructure and the government takes responsibility to deliver such services. While delivery of such
services is crucial, rights to an environment that is not harmful to people’s health and wellbeing and to have the environment protected, for the benefit of present and future generations cannot go unnoticed (National Environment Management Act 1998:3; Republic of South Africa’s Constitution 1996:9). The National Environmental Management Act [NEMA] (1998:3) emphasises that the State, in its endeavour to meet the basic needs of previously disadvantaged communities, must respect, protect, promote and fulfil the social, economic and environmental rights of everyone. Furthermore, the Department of Environmental Affairs (2017:5) points out that the environmental right in the Constitution of the Republic of South Africa acknowledges that the relationship between different forms of livelihood capitals is not one of replaceability, but is that of “interdependency” and “complementarity”. For instance, the relationship between the natural capital and produced capital is that of “complementarity” since substantial loss of natural capital cannot be replaced by an accumulation of manufactured capital (Department of Environmental Affairs 2017:5). Thus, efforts aimed at increasing economic growth and the advancement of social inclusion should also be ecologically sustainable.

### 2.2.2 Debates on infrastructure development

Admittedly, infrastructure developments can largely contribute to the growth and wellbeing of communities, however, development processes carry costs that change the ways in which people live, work, play, relate to one another, organise to meet their needs and generally cope as members of society (Lockie 2001:278; Tilt, Braun & He 2009:249). Social impacts as a result of infrastructure development can be both positive, such as improved welfare resulting from improved access to water or negative - such as forced relocation (Rossouw & Malan 2007:294). For instance, in a study of Mexico City, Barrow (2000:136) found that developing housing for the expanding population was likely to remove some of the best farmland from use, because the city tends to expand to the valley bottoms and other areas that tend to have good soils that people generally survive from. Thus, the delivery of basic infrastructure, such as housing in this case, would greatly affect people’s livelihood resources. Vanclay (2002:197) also takes a negative view on infrastructure development by stating that the development processes can alter social order leading to change processes which include the division or breaking of communities, then to social impacts such as the loss of personal relationships, access to various means of survival and in worst cases, to dislocation and loss of assets and belongings that people have accumulated through the years. For instance, while there are no accurate figures on the overall number of people displaced by development projects around the world, the World Commission on Dams estimates that some 40 to 80 million people that have relocated due to the developments of large dams (Scudder 2011:37). Given the latter statistics, it is likely that the total number of people displaced by projects, and subsequently lose their livelihood resources would be
well over 200 million (Scudder 2011:37). Reddy, Kurian and Ardakanian (2014:39) highlight that infrastructure developments, particularly those that are linked with service delivery, do not assimilate environmental impacts and their related externalities such that only positive environmental impacts are valued and incorporated as benefits. Lockie (2001:278) confirms this by stating that “technocrat rationality emphasises positive impacts, such as regional economic and employment growth, while ignoring those that are not measurable; the variable impact of changes within affected communities; and the subjective and cultural meanings that these changes hold within communities.” Helmore and Singh (2001:2) conclude that doing away or even lessening poverty remains elusive as development experts have paid little attention to single issues and have failed to see the larger complex development picture.

Nonetheless, approval of infrastructure development projects is generally dependent on the outcomes of Environmental Impact Assessment (EIA) and SIA respectively (Fischer 2008:231; O’Faircheallaigh 2009:97). Social Impact Assessments came up as a derivative of the EIA process, and chiefly focused on defining a ‘set of rules’ that need to be followed when a new development happens (Aucamp, Woodborne, Perold, Bron & Aucamp 2011:39). Despite the approval of infrastructure developments, operations have been found to carry very different social concerns. For instance, in their analysis of SIA experiences in South Africa, Aucamp et al. (2011:44) found that SIAs conducted as part of project approval for various development projects did not necessarily contribute towards social sustainability owing to lack of ongoing review and adaptive management. Furthermore, a study by Rossouw and Malan (2007) discovered that the Berg Water infrastructure Project in the Western Cape did have an ex-ante analysis and based on findings of the analysis, an Environmental Management Plan (EMP) was sought to address all identified social impacts. However, general lack of follow-up after the consent decision was the major weakness of EIA and SIA as actual impacts that emerged during and after the construction phase were ignored. Thus, SIAs undertaken as addenda to EIAs have been found to have a limited scope to affect broader sustainability issues such as, social, economic and bio-physical (Aucamp et al. 2011:48; O’Faircheallaigh 2009:96; Rossouw & Malan 2007:294).

Much has changed since the inception of SIAs. The changes support the concept of sustainable development. The world accepts the concept of ‘sustainable development’ to deal with the impending problems of poverty and environmental degradation. The concept was adopted at the 1992 United Nations Conference on Environment and Development (or Earth Summit) in Rio de Janeiro, and a decade later at the 2002 World Summit on Sustainable development (Earth Summit+10) in Johannesburg (Vanclay & Esteves 2011:38). The existing debate assumes that SIAs have a lot more to offer beyond the traditional narrow view of predicting impacts in advance in a regulatory context
(Vanclay & Esteves 2011:3). Even though there is wide consensus among scholars that an SIA should be an ongoing monitoring and management tool (throughout the development process), in practice, SIAs tend to be too narrow and continue to be viewed as merely an approval mechanism (Aucamp et al. 2011:56; Esteves, Franks & Vanclay 2012:36; Vanclay 2004:281).

Internationally, there appears to be better understanding of the importance of SIAs doing more than the act of projection of anticipated impacts to a process of managing the social aspects of developments (Vanclay 2006:10). For instance, in Queensland, Australia, it is mandatory for resource projects to submit a Social Impact Management Plan (SIMP) as part of their Environmental Impact Statement (EIS). The SIMP outlines the plans to be undertaken during the different stages of a development (including closure) to assess, monitor, report, evaluate, review and proactively respond to change (Esteves et al. 2012:36). Additionally, the Asian Development Bank (ADB) published a handbook in the year 1994 for providing guidance on how to include social issues in ADB-funded projects. In this handbook, conducting of an Initial Social Assessment (ISA) as part of greater Social Analysis (SA) procedure during the feasibility study to identify and incorporate social issues is compulsory for ADB-funded projects (Momtaz 2005:39). Finsterbusch (1995:230) notes that a complete and accurate prediction of future social impacts, especially during planning, is practically an impossible task except for highly standardised events. Furthermore, the nature of social phenomena prevents precise behavioural forecasts, since social units are not fixed structures and social phenomena include flexible interactions (Finsterbusch 1995:230). Thus, impacts associated with infrastructure development projects do not stay the same due to changing economic and social conditions, hence, the necessity of conducting follow-up studies (Rossouw & Malan 2007:298).

Follow-up studies have proven to have the ability of managing the social aspects of developments and ensuring adequate representation of project impacts. For instance, the follow-up study of an unplanned mining closure in Ravensthorpe, Western Australia managed to establish the unintended social, environmental and financial impacts that affected the local communities when the mine was postponed nine months into a projected 25-year lifespan (Browne, Stehlik & Buckley 2011). In addition, the follow up case study on the development of the Berg Water infrastructure Project in the Western Cape, South Africa by Rossouw and Malan (2007) could critically evaluate predicted social impacts against the actual impacts that emerged during construction of the dam. With the growing realisation that impacts are highly site specific and dependent upon unique interaction between community and development projects (Burgde 1990:92), this follow-up study was relevant in order to obtain multiple perspectives from the affected community which ensure an adequate representation of the actual social impacts of the Motheo infrastructure development project on the livelihoods of the community of Palmridge.
2.2.3 Participatory assessment of project impacts

Existing literature supports the idea that the identification of impacts should consider a wide range of social knowledge and that a participatory approach is suitable as it allows those who are affected by developments to play a role in identifying the possibility and extent of impacts (Becker, Harris, Nielsen & Mc Laughlin 2004:177; Chess & Purcell 1999:2685). Hanna and Vanclay (2013:146) stress that in order to facilitate self-determination, it is necessary to afford “indigenous peoples” opportunities to take part in decision-making and project development. Thus, this view holds that people cannot be excluded from developments that affect them. Furthermore, besides being consumers of services rendered or beneficiaries of development programmes, affected people are critical role players in the development processes. For instance, until lately, the Australian Law regarded the land as *terra nullius*: officially empty at the point of European arrival - effectively depriving people (who had been present) of any rights over natural resources. Over and above the loss of natural resources, people suffered discrimination, loss of self-respect and cultural identity (Barrow 2000:119). Similar situations in the South African context occurred, until the transition to democracy in 1994 that brought about constitutional recognition and protection of cultural diversity and traditional structures that were previously suppressed during apartheid era (Aucamp et al. 2011:38). It then becomes necessary that people be provided with opportunities to participate in project development as they can explain best how they experience events. Moreover, they can share important information on the practicality and effectiveness of mitigation strategies and can judge the significance of projected impacts (O’Faircheallaigh 2009:98). Therefore, public participation is the key to effective environmental assessments as stakeholders have a right to influence and share control over development initiatives, decisions and resources which affect them (Rietbergen- McCracken & Narayan 1998:4).

In line with the above perception, SIAs come in as a tool for engaging communities and encouraging participation (Gismondi 1997:149). Although an SIA does not have statutory status like EIAs, countries such as Bangladesh set as a good example as they have placed special emphasis on social issues within the EIA, where public participation is viewed as a crucial activity throughout the project life cycle. Furthermore, people’s participation is viewed as helpful in exploring ways of minimising the effects of “environmental damage” on human beings, in that way placing considerable importance on human factors of interventions (Momtaz 2005:35). Similarly, in South Africa, the National Environment Management Principles, Section 2(4) (f) states, “The participation of all interested and affected parties in environmental governance must be promoted, and all people must have the opportunity to develop the understanding, skills and capacity necessary for achieving equitable and effective participation, and participation by vulnerable and disadvantaged persons must be ensured”
(NEMA 1998:12). While it is impossible to mitigate all social impacts, adequate supply of information and community participation can reduce much fear and uncertainty associated with the development of projects such as infrastructure (Rossouw & Malan 2007:297). This study therefore conducted a participatory assessment of social impacts, where articulation of impacts was based on the knowledge and experiences of the affected community of Palmridge reflecting a unique understanding of this particular community and ensuring that the research agenda is driven by the community and serve their interests.

Much has been written about the importance of public participation for interested parties, particularly in bringing public values and social objectives to the decision-making process and promoting accountability, efficiency, equity and empowerment (Du Pisani & Sandham 2006:718). Another perspective on public participation is that its purpose is not just to help meet information needs of proponents, regulators and politicians, but to help achieve ethical, political and philosophical goals (O’Faircheallaigh 2009:98). However, scholars such as Shepherd and Bowler (1997:725) argue that public participation in many contexts does not serve its purpose. According to these scholars, due to competing interests of project proponents and the view that citizens lack project-specific expertise thus likely to delay their schedule, citizen involvement is often conducted for compliance and is rarely a genuine process of including the public in environmental decision-making. Du Pisani and Sandham (2006:718) support this assertion by stating that the main issue in Africa, including South Africa, is that members of the public are not properly educated about their rights. The authors further elaborate that public participation therefore turns to be a disappointing feature of the SIA due to factors such as, but not limited to, low response rates and limited turn up in meetings, few inputs and objections raised, and under-representation of interested and affected parties. Furthermore, lack of participation is aggravated by the fact that environmental consultants hardly take the values and concerns of the affected communities into account as they regard the developer, who is paying them, as their sole client (Du Pisani & Sandham 2006:719).

Regardless of the contradictory views, of importance is that ‘the public’ or sections of it are the ones that experience the impacts, thus it is unethical and unfair to disregard their views and assessments in decision-making. By virtue, the affected people should be allowed to participate in the SIA process (O’Faircheallaigh, 2009:98). In a case study of Diavik Diamond mine in Canada, the community-based agreement that was developed managed to improve the regulatory SIA conducted during the projection phase. Local concerns and demands articulated by indigenous community members themselves led to Diavik Diamond mine developing one of the most successful benefit agreements for indigenous communities on record (Vanclay & Esteves 2011:70). To take a case in point, the Murowa resettlement agreement in Zimbabwe reveals how methods that encourage companies to go
beyond compliance can benefit communities. The Diamond mine project prioritised ongoing community engagements rather than relying upon the regulatory oversight of local authorities. The direct involvement of the community benefited the community in that they achieved better, more appropriate, benefits while the company managed to implement its project timeously (Vanclay & Esteves 2011:71). Lockie (2001:279) stresses that, despite the aura of objectivity, technocratic rationality is ill-equipped to deal with competing interests, beliefs, values, and aspirations that characterise complex social situations or with the active participation of multiple stakeholders. Thus, this study strives to achieve true participation by moving away from technical approaches to participatory techniques which can give the affected community an opportunity to share their experiences in relation to the social changes evoked by the Motheo infrastructure development project. The community is therefore afforded a chance to share how the social impacts of the infrastructure development project affected their livelihoods.

2.3 Theoretical framework

The SLF is an analytical framework that structures when and why environmental issues are important in human lives and particularly in relation to livelihoods, but without ignoring the complexity of the human reality (Neefjes 2000:80). The SLF is the most suitable approach for this project, because it is predicated on the understanding that people seek to maintain their livelihoods within a context of vulnerability (Vanclay & Esteves 2011:326). The SLF is a people-centred approach that views the world from the point of view of the individuals, households and communities who are pursuing livelihood strategies, who are volatile to insecure conditions, and have limited assets (Rakodi & Lloyd-Jones 2002:19). Thus, the SLF can be used to understand how people develop and maintain livelihoods including how they function, manage and respond to the social change processes caused by infrastructure development projects (Vanclay & Esteves 2011:326). Social change processes are defined by Vanclay (2002:192) as alterations in the social order of society which are set in motion by project activities or policies. According to Vanclay (2002:192), social change processes can lead to social impacts that can affect people's livelihoods, depending on the characteristics of the local setting and mitigation processes put in place.

Figure 3 below Illustrates the SLF. The SLF was developed by the UK Department for International Development (DFID) with the aim of creating a better understanding of how people develop and maintain livelihoods (Vanclay & Esteves 2011:326). The framework presents the assets on which households or individuals draw to build their livelihoods. Livelihood assets are influenced by the context, which refers to the sources of insecurity to which poor people and their assets are vulnerable. Furthermore, access to and use of assets is influenced by policies, organisations and relationships
between individuals and organisations. Lastly, the strategies which individuals and households adopt produce outcomes, which are defined in terms of greater or lesser wellbeing (Rakodi & Lloyd-Jones 2002:9).

Figure 3. The Sustainable Livelihood Framework (SLF)

A livelihood encompasses the capabilities, assets (including both material and social resources) and activities for a means of living (Chambers & Conway 1992:6). Vanclay and Esteves (2011:323) point out that the SLF, with its focus on community assets and capitals (natural, economic, physical, human and social), is particularly useful in providing a fundamental basis for identifying and further enhancing community capacity and resilience. The capitals, thus, include tangible resources as well as human capabilities to create, use, maintain, and improve them (Neefjes 2010:87). People rely on these assets to make a living and thus disturbance of their assets threaten their livelihoods (Chambers & Conway 1992:8). Helmore and Singh (2001:4) point out that everyone’s livelihood, is made up of three components – activities, assets and entitlements – together with the short-term coping mechanisms and long-term adaptive strategies. Thus, a person chooses which mechanism to employ when faced with crisis to adjust to adversity, loss, and change, and so that he or she can maintain a livelihood. “Central to the approach is the need to recognise that those who are poor may not have cash or other savings, but that they do have other material or non-material assets – their health, their labour, their knowledge and skills, their friends and family and the natural resources around them.”
(Rakodi & Lloyd-Jones 2002:10). Thus, livelihood approaches require a realistic understanding of these assets in order to identify what opportunities they may offer, or where constraints may lie (Rakodi & Lloyd-Jones 2002:10).

The number and quality of labour resources that households have fall under the category of human capital. Thus, the ability of households to manage their labour assets to take advantage of opportunities for economic activity is constrained by the levels of education, skills and health status of household members followed by the demands of household maintenance (Rakodi & Lloyd-Jones 2002:10). As mentioned above, infrastructure developments can adversely affect the human capital of project-affected people. According to Stabinsky (2000:266), households may respond to economic stress by depending greatly on the biological diversity that surrounds them and generally have the knowledge of how it can benefit them. Changing of an environment due to developments of infrastructure can make it difficult for households to continue supporting themselves, as the developments may wipe out fields and forests, which have resources for communities. For instance, in a case study by Tilt, Braun and He (2009:254), the Manwan Dam in China resulted in unforeseen negative impacts on the livelihoods of people. Agricultural activities including livestock production and breeding were a backbone of the local economy. Households could maintain their livelihoods out of these activities. However, the development of the dam came with a need for people to be resettled to another area, which unfortunately did not have similar environmental conditions, and this brought a measurable downturn in economic productivity that had serious consequences for survival of households. Esteves and Vanclay (2011:332) point out that a community that is heavily dependent on a particular industry, which has low levels of human capital, is likely to face greater challenges in embracing socioeconomic change as a result of disturbances or disruption.

Social capital is viewed as a resource that people use to achieve certain needs. Bourdieu defines social capital as the aggregate of the actual or potential resources which are linked to possession of a durable network of more or less institutionalised relationships of mutual acquaintance and recognition – or in other words, to membership in a group (Bourdieu cited in Richardson 1986:51). In the same vein, Bourdieu says that the volume of social capital possessed by a given agent depends on the size of the network of connection he or she can effectively mobilise and on the volume of the capital (economic, cultural and symbolic) possessed in his/her own right by each of those whom he or she is connected to (Richardson 1986:51). This is confirmed by Neefjes (2000: 88) who says high levels of trust and collaboration enables individuals and households to get help from peers. Thus, in the absence of other assets, poor people rely on their relationships, associations and networks to survive on a day to day basis (Rakodi & Lloyd-Jones 2002:134). However, Neefjes (2000:88) argues that, amongst the social resources which people can draw from in pursuit of their livelihoods, groups are beneficial for their
group members and may exclude other people such as the very poor and vulnerable. This is confirmed by Rakodi and Lloyd-Jones (2002:137) who mention that poor people avoid participating in groups as they cannot meet their obligations and without social connections, they are the most impoverished. Nonetheless, many infrastructure development projects involve compulsory community resettlements (Scudder 2011:37). Such movements can result in loss of social resources such as networks, memberships of groups and relationships which people generally depend on in pursuit of their livelihoods. Gramling and Freudenburg (1992:20) concur with this and highlight that project-affected communities can also lose some of their assets even before any physical disturbance of a development project takes place. For instance, impacts on the social system occur as interest groups form or redirect their energies, promoting or opposing the proposed activity and engaging on defining the threats or opportunities that the project will bring. This can result in interaction patterns changing, older friendships lost, and new ones made, or even deterioration of the sense of community.

Physical capital is broadly defined as the community’s built infrastructure, the production equipment and means which enable people to pursue their livelihoods (Carney 1998:7). Relocation of households as a consequence of infrastructure development can result in temporal or permanent loss of physical assets. Moreover, the process of relocation can result in living standards of people being affected negatively. Vanclay and Esteves (2011:188) found that the decrease in living standards is because of the planning horizon where project proponents rarely improve infrastructure relocation sites, and those who must resettle are usually discouraged from improving their houses or initiating new ventures within the project area. Therefore, the livelihoods of the affected can be expected to worsen compared to their neighbours who are not relocated. Over and above the decreasing living standards, resettlement is an overwhelming experience. Following removal, those who are resettled must build or find a way to adjust in their new shelter. Livelihood activities and access to resources are affected and people are required to adjust to the new and unfamiliar environment (Vanclay & Esteves 2011:188). Thus, resettlements from preferred areas can cause stress which has negative impacts such as increased illness, death rates and inability to cope. For instance, the case study of the railway project in China by Grangsgrow (2007) revealed that the construction of the railway affected the physical asset of the project-affected community. The original roads were cut off and not properly restored. Villagers used to be one kilometre away from town and the roads made travel to and from the market and schools convenient for villagers. After the railway construction, the company built a road to town which was four kilometres away. Not only were the villagers concerned about the distance, but the road was very steep and difficult for the elderly and people with disabilities to get to the market. Moreover, trucks carrying heavy loads could not climb the hills, fruit sales were affected, and this resulted in serious negative impacts on the life and means of survival for the
residents. Vanclay and Esteves (2011:331) confirm that an isolated community, which does not have access to basic facilities and other social services, may lack the capacity to improve its local human skills base; and is likely to be disadvantaged in capitalising on opportunities for further industry development and economic capital growth. Again, Vanclay and Esteves (2011:186) acknowledge that in success stories, people who were resettled may re-establish their former or even better living standards. On the other hand, they confirm that this rarely occurs in development-induced resettlements. Rather, resettlement is characterised by increasing impoverishment.

Financial assets available to people include the sale of their labour, pensions and remittances, including access to credit (Rakodi & Lloyd-Jones 2002:46). Thus, the status of the household’s access to economic resources has significant implications in relation to its resilience and adaptive capacity. Rakodi & Lloyd-Jones (2002:11) point out that, whereas rural households’ access to resources do not only depend on monetary purchases, the urban economy is highly monetised thus access to monetary income is essential for survival. Nonetheless, lack of financial services suitable for poor households constrains their ability to save and obtain credit (Rakodi & Lloyd-Jones 2002:12). Furthermore, access to financial capital allows easy access to the other capitals thereby increasing their resilience, for instance households can be able to buy property for shelter (physical capital) and can also use the land they own (natural capital) to do agricultural activities that can sustain their livelihoods. Literature shows that infrastructure development projects can impact on the financial capital of the affected communities. Although the Lesotho Highlands Water Project (LHWP) improved the financial asset of households through initiatives such as employment opportunities, it could not avoid worsening the standards of living for the project-affected people. For instance, the Lesotho government increasingly prioritised the commercial uses of resources and the re-organisation of rural resources towards the benefit of the state and urban areas. The affected community reported loss of natural resources such as natural springs, food, medicinal resources and wooded areas. In losing these resources without compensation, the affected people effectively subsidised this international development project through increased labour, increased purchasing and greater reliance on cash to survive, which disrupted their livelihoods (Tilt, Braun & He 2009:251).

Access to land is a key factor, since the poor depend on it for their survival and progress by living in or near locations that maximise livelihood opportunities (Rakodi & Lloyd-Jones 2002:152). However, large infrastructure development projects involve taking away land and often involve compulsory community resettlements. In the case study by Gransgrow (2007), the railway infrastructure development project in China resulted in compulsory resettlements of project-affected people. Those who were resettled lost their agricultural land and although compensation was provided, it would prevent serious difficulties only for a short term. Land requisition by the project
had serious effects on poverty-stricken households, aged families, and single mothers. This is because they lost their land resources forever and the categorised group had fewer opportunities for non-rural employment and less capacity for starting their own businesses. McDonald, Webber and Yuefang (2008:82) argue that sole provision of compensation for those who are displaced is not enough for restoration of livelihoods in the event of involuntary resettlements. The authors support Resettlement with Development (RD), which they define as: treating the resettlement of those forcibly displaced as an opportunity for development so as to improve their livelihoods after relocation. Esteves and Vanclay (2011:172) share the same sentiment by stating that land use changes is a controversial issue as it can result in food insecurity since the land which households use to plant on and harvest to feed their families is taken away.

Nonetheless, livelihood resources cannot be viewed as separate elements as they feed to each other and have unclear boundaries. For instance, if people own land (natural asset) they are able to use their skills and knowledge (human asset) to plant crops which they can survive on and also sell to other people (thus generate financial asset). Eventually they may be able to have savings to install an effective water supply system (physical asset) for their vegetation, while at the same time they may be able to loan money to other people in need (building on the social capital). Thus, livelihoods are complex multidimensional, temporally and spatially varied and socially differentiated. Livelihoods can be affected by multiple factors from local conditions to broader structural political economic processes (Scoones 2015:34). However, some factors are confirmed to be outside the immediate control or influence of people who pursue their livelihoods. According to Neefjes (2000:93), trends, shocks and seasonality in contextual factors strongly define poor people’s vulnerability and although they may be anticipated, generally they are not in the ordinary people’s domain of direct influence. Nevertheless, analysing vulnerability involves identifying not only the threats to individuals and households and their assets, but also their resilience, their ability to mobilise assets, exploit opportunities and resist or recover from negative effects of the changing environment (Rakodi & Lloyd-Jones 2002:14).

This study assesses whether the community of Palmridge Ext. 9 phases 5 and 6 is resilient or vulnerable to specific changes or risks. This is done by identifying the status of the community’s key assets or capitals, including tangible resources, as well as human capabilities to create, use, maintain and improve them (Neefjes 2010:87). The study called for a framework that would allow me to collect background information to get a baseline degree of sensitivity and vulnerability. Following this, the study obtained primary information from the affected community members, and finally, made recommendations on how the community’s capacity to manage key assets or capitals and resilience to cope with, and recover from stresses and shocks can be enhanced. The SLF can therefore assist in
explaining the relationship between people in Palmridge Ext. 9 phases 5 and 6, their livelihoods and their environment.

The DFID considers sustainability to be the central concept of the livelihoods framework, without which development efforts are wasted. Sustainability can be defined as the management and use of natural resources to ensure that these resources will remain intact for future generations (Helmore & Singh 2001:5; Vanclay & Esteves 2011:40). Thus, sustainability is a key indicator of success or failure in development projects (Helmore & Singh 2001:5). According to Chambers and Conway (1992:6), a livelihood is sustainable when it can cope with and recover from stresses and shocks and maintain or enhance its capabilities and assets, while not undermining the natural resource base. Rakodi and Lloyd-Jones (2002:18) concur with this definition and admit that it embodies resilience, the ability to cope and adapt and improve wellbeing, and also avoid depletion of stocks of natural resources to a point of decline towards livelihood support. Furthermore, they acknowledge that conflicts will occur, and trade-offs will have to be made between these different elements of sustainability however they argue that the questions on whom sustainability is for, and what criteria is used, are not addressed. This is confirmed by Nel (2015:512) who points out that a critique of the SL approach is that, although capitals or assets are central to the approach, people get less attention. Nevertheless, Helmore and Singh (2001:6) state that the SL approach is designed to promote four essential characteristics which can ensure sustainability, namely economic efficiency, social equity, ecological integrity, and resilience. Economic efficiency talks to a livelihood system that is well organised economically, while the social equity refers to harmony amongst livelihoods where one form of a livelihood augment other livelihoods and not threaten or impede them. The ecological integrity relates to protecting resources for use by current and future generations. Finally, resilience refers to livelihood systems being able to survive in times of planned and unplanned events. Thus, sustainable outcomes in infrastructure development projects are achievable when more emphasis is exerted into managing and monitoring of impacts beyond the prediction phase, but throughout the project life cycle.

The SLF insists that it is essential to acknowledge openly and take into account the distinctive roles of women and the special obstacles they face, as well as the different social situations of women and men including the frequent unequal sharing of resources within each household (Helmore & Singh 2001:9). “While decisions about household matters may be made jointly and on an equal basis by household members, the distribution of power within the household is generally more complex, with men normally having more say than women or children” (Rakodi & Lloyd-Jones 2002:8). Furthermore, decisions about the allocation of personal resources of household members are
influenced by their relative bargaining power, the motives and the expectations of wider social groups, especially kinship networks (Rakodi & Lloyd-Jones 2002:8). Therefore, to have a proper understanding of people’s livelihoods, it is important to solicit information about assets and adaptive strategies from men and women. The SLF therefore serves as the vehicle to recognise each gender’s fundamental sources of strength and sustenance (Helmore & Singh 2001:9).

Examples and case studies from all around the world have drawn attention to the need to make visible the roles of women in large-scale development projects such as infrastructure development, and to encourage government and industry to adopt inclusive community development processes to ensure that developments can benefit women and men equally (Lahiri-Dutt 2011:2). Vanclay and Esteves (2011:117) agree that the impacts of development projects are ‘gendered’ in that they are different for women and men. This difference is rooted in distinct roles played by women and men and is exacerbated by the shifting burden of work that falls on women and girls who carry out a disproportionate share of unpaid work in households. Furthermore, given the different roles of men and women in society, their capacities to seize the opportunities provided by new infrastructural development projects and to cope with the risks and fall-outs from such investments vary (Vanclay & Esteves 2011:117).

Ultimately, communities cannot be viewed as homogeneous equitable units. A fuller understanding of project impacts can be possible when different roles, positions and situations of women and men are considered. “Such considerations can help to avoid production of a kind of knowledge on social impacts that claims to be universal and objective, while in reality, it is knowledge that is based only on men’s lives” (Vanclay & Esteves 2011:118). For instance, the case study of a mining project in Jharkhand, India by Ahmad and Lahiri-Dutt (2006) revealed that women were more affected by displacement than men. Physical facilities and services were rarely provided at relocation sites, and women were more dependent on them than men. In addition, the case study of Benti Village by Lahiri-Dutt (2008) found that the development of a coal mine changed the economic life of the community from agricultural and forest based to one based on mining and labour. However, most of the jobs offered by the mine were accessed by men, while women were confined in their houses. This resulted in men assuming more power and voice, leading to a decline in women’s status in society since women were economically inactive. Therefore, the coal mine afforded men more authority and forced women to be subordinate to men. From these case studies, there are no doubts that large infrastructure developments affect women and men differently and these differences need to be considered. This research study therefore focuses on the social impacts of the Motheo infrastructure development project on the livelihoods of community members of Palmridge and it is inclusive of the experiences of men and women who are heading households.
2.4 Conclusion

The literature discussed in this chapter has demonstrated that infrastructure development is an essential need as it can advance the quality of life for poor people but contrary to this, infrastructure development processes have been found to evoke social changes that can impact ways in which people maintain themselves. The view was that infrastructure development projects must prioritise the sustainability of people’s livelihoods at all times. There were gaps in literature with regard to follow-up research on social impacts of infrastructure development projects on livelihoods. Conducting SIAs in advance as a predictive study were viewed negatively, since such studies are not able to manage the social aspects of development projects. For this reason, continued monitoring of social consequences of infrastructure development projects was viewed as critical in ensuring correct representation of project impacts. The importance of engaging communities in developments that affect them was also discussed including giving them opportunities to participate in decision-making. Public participation was therefore viewed as non-negotiable, while on the other hand other scholars argued that public participation in many contexts is unable to serve its purpose.

The SLF was discussed and attention was paid to the impacts of infrastructure development projects on livelihood assets. Success stories of communities that lost their physical and natural resources as a consequence of infrastructure development are rare in the literature. Sustainable development was viewed as very critical, since developments should be able to meet the needs of the current generation while not undermining the ability of the next generations to meet their needs as well. Finally, livelihoods and gender were discussed, because project impacts are “gendered”, given the distinctive roles men and women play in society. This study therefore contributes to the literature of ongoing assessments of social impacts caused by infrastructure development projects and also suggests how the affected community’s skills can be strengthened in order to manage and respond to the change that infrastructure development projects bring. This study gives insights into the impacts of infrastructure development projects at a household level and identifies how men and women perceive the social changes. Applying the appropriate research methodology for this study in chapter 3 becomes important in order to open the opportunity for the study to add towards the body of knowledge that deals with follow-up studies on social impacts of infrastructure development on community livelihoods.
CHAPTER 3: DESCRIBING THE APPROACH TO THE STUDY

3.1 Introduction

This chapter, subsequent to identifying and critically discussing the gap in literature as well as the theoretical approach in chapter 2, presents the appropriate research methodology for this study. The chapter discusses the methods and tools used for the study on the social impacts of the Motheo infrastructure development project on the livelihoods of the community of Palmridge. The key objective of this chapter is to give details on how the study was conducted and what emerged in the course of pursuing the research. The chapter therefore presents the approach applied, a suitable data collection method as well as analysis tools. In addition, the chapter covers the ethical issues that needed to be considered during data collection and analysis of data. Finally, reflections on my experiences in conducting the research, including the limitation of the research method selected are discussed.

3.2 Methodological approach

3.2.1 A qualitative approach

The main purpose of the study is to understand and document the actual experienced social impacts on the livelihoods of the community of Palmridge following the social change processes evoked by the Motheo infrastructure development project. A qualitative research approach was used in this investigation to enable me to understand broadly the experiences of the community affected by the infrastructure development project. The qualitative approach was the most suitable approach because of its express commitment to viewing events, actions, norms and values from the perspective of the affected people (Bryman 2001:61). In addition, it uncovers more about people’s unique experiences in a natural setting where they make their living rather than the quantitative method, which holds that scientific methods such as experiments are the only way to establish the truth (Wagner, Kawulich & Garner 2012:53). The strength of a qualitative approach is that it enabled me to examine social processes within the social context of Palmridge, and study rich interpretations and meanings that the community members attach to the social changes invoked by the Motheo infrastructure development project on their socio-cultural setting. Moreover, a qualitative approach was relevant because it acknowledges that knowledge is subjective and there are multiple socially constructed realities, unlike the quantitative method that focuses on objectivity and stresses that there is one universal reality (Wagner et al. 2012:54). Furthermore, conducting a qualitative study in this particular context using the phenomenological approach to describe the experiences helped in establishing how developments of infrastructure have impacted the livelihoods of households in the community of Palmridge. The
phenomenology research design is defined by Wagner et al. (2012:132) as the analysis if the experiences of individuals who are uniquely situated in a particular phenomenon. It focuses on the meaning that certain lived experiences hold for participants and from the individual descriptions general or universal meanings are derived. Thus, phenomenology is premised on the understanding that it describes people’s experiences and does not attempt to explain the experience.

3.2.1.1 Exploring the livelihoods in Palmridge

Livelihoods are viewed as the means that people engage in to support themselves. The SLF was used in this qualitative study as it is a fundamental basis to identifying and further enhancing community capacity and resilience. The assessment of livelihoods in this study focused on people’s activities, assets and entitlements and how these have been affected by the Motheo infrastructure development project in Palmridge. Furthermore, from a constructivist point of view where knowledge is understood to be subjective, the affected community members were in the best position to share how they experience the changes that were provoked by the developments of infrastructure on their livelihoods.

3.2.2 Gaining entry

The initial step taken was to familiarise myself with the geographical area of Palmridge. This was useful to acquire basic background information on the area and to ascertain whether the relevant information could be obtained from the community. Gaining entry into the research setting from community leaders is seen as one of the important initial steps before conducting research (Wagner et al. 2012:65). However, access through gatekeepers can often be difficult especially in areas where there is political tension and differences. For instance, on the 8th of April 2017, I went to the community to do a walkabout, on this day I randomly met and introduced myself to community members who then referred me to a community leader in the area. The community leader further referred me to the councillor of the ward. Following this, I managed to acquire the ward councillors contact number through his secretary to secure an appointment. However, on the telephone conversation with the ward councillor that took place one 11th April 2017 even after introductions and several attempts to explain the purpose of the research, the councillor alleged that I represented Economic Freedom Fighters (EFF), which is an opposing political party in the area as the first contact person who referred me to the community leader is a well-known activist who belongs to that party. As such, the councillor offered to support the research if interviews were to be conducted with leaders who belong to the African National Congress (ANC), which is the ruling party in the area. This was to ensure that the ANC is well represented in the research and the findings favour the political party. To avoid the politics of this area I therefore designed a research study that allowed me to assess the
livelihoods of community members instead of the project itself. This was done to minimise biases and to ensure that views of the ordinary community members are heard.

On the 16th of July 2017, another walkabout was conducted in Palmridge. The community was welcoming and after I introduced myself and explained the purpose of the study they understood, were interested and more than willing to work with me. During this visit, I managed to make observations and establish relationships with some of the affected community members who also referred me to other stakeholders and leaders in the area. The visit served as a means to investigate the viability of the study. Furthermore, observing the community and listening to their past and present experiences of the social impacts of the infrastructure development project on their livelihoods made the research well placed. Following this, on the 27th of July 2017, I approached the CoE offices in Siluma, Katlehong. Personnel were very helpful and they shared information about Palmridge Ext. 9 and the developments underway. They printed a few documents with demographic information on the area and referred me to the CoE Alberton Offices where I was to obtain the locality plan including aerial photographs of Palmridge. Furthermore, the personnel from the Siluma office promised to e-mail project detail reports to me as the reports were very long to be printed; however no email was received even after numerous follow-ups. This gap was addressed mainly by collecting primary data.

3.2.3 Research methods

Both primary and secondary data was used. Primary data collection methods included semi-structured interviews conducted with heads of households to establish how the Motheo infrastructure development project affected their livelihoods. This interview method was used in order to obtain first-hand experiences of participants and observe their feelings as they relate their experiences. Face-to-face interviews are one of the powerful tools in qualitative research as they permit an exchange of ideas and information, while also providing an opportunity to clear up misunderstanding of particular questions should a need arise. Secondary data comprised of statistics from Statistics SA and the Integrated Development Plan (IDP) of the CoE. This information was used to determine the baseline information of Palmridge. The secondary data included the gender demographics, education levels, employment and unemployment rate and household income levels.

3.2.4 Population of the study

Target population is the concretely specified large group of many cases from which a researcher draws a sample, and to which results from the sample are generalised (Neuman 2014:252). The population for this study was defined as all households in Palmridge Ext. 9 Phases 5 and 6. In view
of the fact that the study was retrospective, the number of years that the participant has resided in Palmridge Ext. 9 Phases 5 and 6 was to be considered. As per the information obtained from the municipality officials, CoE began development of basic and social infrastructure in Palmridge Extension 9 in 2012. The research therefore targeted participants who have been living in the area for a period of more than five years who were in a position to share their experiences on how the infrastructure development project has affected their livelihoods.

### 3.2.5 Sampling techniques

The study adopted the snowball sampling technique to select the participants of the study. Through this type of sampling, one collects data on a few participants from the target population whom you can locate and then request these individuals to recommend other potential participants in the community (Wagner et al. 2012:92). After a potential participant was referred, I was then guided by the principles of purposive sampling to select the participants. In conducting the research, the first successful point of entry into the community was through Zenzeleni, which is a non-profit organisation. The organisation renders poverty alleviation programmes, home based care services and donates food parcels and clothing to the community of Palmridge and other local communities in Katlehong. Most of the beneficiaries of this organisation were confirmed to be from Palmridge Ext. 9 Phase 5 and 6 and it is through them that I was able to gain entry into the community, meet and establish rapport with research participants for inclusion in the study. Subsequently, the beneficiaries of Zenzeleni also referred me to other participants. In addition to gaining access to the community, contact was made with a ward committee member in the area who is also an individual within the relevant population for the study. The ward committee member helped as a key informant as she is known within the community. After introductions and explaining the purpose of the study, she gave consent to participate in the study and to refer me to potential participants. Although I was not from the area, the majority of participants were more comfortable to speak, especially when told the name of the person that referred me to them.

A purposive sample of eight participants, both males and females who were above the age of eighteen years were drawn from the population. The participants in this study are from diverse ethnic groups, namely Tsonga, Zulu and Sotho. As one of the criteria, participants should have been residing in the area for more than five years. The selected participants ranged between five to eighteen years of residing in Palmridge. Participants were aged between 19 and 80 years and are heading different households, where they have different number of dependants ranging from one to eight people. The participants were three older persons, one person with a disability, three unemployed people and one casual worker. The participants are engaged in various activities towards supporting their livelihoods.
ranging from part-time employment, selling goods and doing handy jobs to augment the social grants that they receive from the State. In summary, participant A is a 42-year-old woman who comes from a family of eight people and has been residing in the area for five years. Participant B is an 80-year-old female pensioner who has been living in the area for the past 18 years. Participant C is a 19-year-old self-employed woman who stays with her husband and three children. Participant D is a 40-year-old woman who is unemployed, comes from a family of six people and has been living in the area for 16 years. Participant E is a 58-year-old woman who has a disability, she is unemployed and has been living in Palmridge for seven years with two people in her house. Participant F is a 68-year-old male pensioner who has a registered trading company. He resides with his wife and have been living in the area for 10 years. Participant G is a 66-year-old male pensioner who stays with one person and have been residing in Palmridge for 15 years. Participant H is a 42-year-old male who is employed on part-time. He has been residing in the area for eight years with his wife and two children. (See profile of participants as attached on Appendix C).

Purposive sampling was chosen because it enabled me to use a wide range of methods to locate all possible cases specific to the study (Neuman 2011:273). The purpose of conducting interviews with selected community members was mainly to gain understanding from people whose livelihoods were affected by the development of infrastructure in Palmridge and are able to share their experiences. Furthermore, owing to the intense and in-depth nature of qualitative studies, a smaller sample size was suitable for this study (Wagner et al. 2012:88).

3.2.6 Data collection
Data was collected through semi-structured interviews, aided by open-ended questions contained in an interview guide (Wagner et al. 2012:133). The open-ended approach was selected because it allows an entree to important topics which may not have been noticeable to me had I foreclosed the domain of the study by a structured, and a potentially rigid, strategy (Bryman 2001:68). During interviews, I used communication skills such as listening, attending, probing and minimal encouragers in order to encourage maximum participation. Furthermore, to enhance data recording, I used a notebook to capture my own thoughts, emotions and general observations. Moreover, a voice recording device was used with permission from the participants to capture the in-depth richness of their experiences.

Interviews were conducted in IsiZulu, Sotho and XiTsonga according to the preference of the participant as I am conversant in these languages. Conducting interviews using local languages helped in gaining trust and build relationships with participants, while also ensuring that meanings were not lost through translation. Interviews were conducted over a period of three days by interviewing three participants per day. Interviews were conducted in the participants’ homes and street corners where
they run their small business, and each interview took approximately 60 minutes. The interviews allowed me access to households and detailed information necessary for the study. The interview schedule (See Appendix A) was based on the following themes with each theme containing seven to ten main questions which served as a guideline during data collection.

3.2.6.1 The individual perceptions of the social changes that the infrastructure development project brought

The main research question of this study was to identify the social impacts of the Motheo Infrastructure development project on the livelihoods of the community of Palmridge. Through the interviews, I was able to investigate how the participants themselves interpret their personal experiences and any changes they may have lived through as a result of the infrastructure developments in their area. The participants’ experiences of processes followed by the local authority and the development agent while planning for infrastructure development were explored. Participants were asked questions on public consultation and how they were involved in decision-making processes. It is critical to come to an understanding of community involvement in the different phases of the developments, especially to see if the community support and own the developments. Furthermore, the interviews were aimed at discovering the concerns that the community members have. Lastly, there was an exploration into how the community members identify with their area given the changes.

3.2.6.2 Exploring the households’ livelihood resources before the infrastructure development project

Livelihood resources are viewed as the main elements for survival of households. Assessing livelihood resources is very complex as it does not only talk to assets (both substantial and social resources) but include capabilities and activities for means of survival. The assessment of the impacts on livelihoods for this study focused on the following areas as outlined by the UK Department for International Development (DFID) and further elaborated by Rakodi and Lloyd-Jones (2002:19) in their determination to viewing the world from the standpoint of the people who are pursuing livelihood strategies while they are volatile to insecure conditions. The data generated was on the five livelihood assets that feed each other and have unclear boundaries.

With regard to human capital, the study was focused on the quantity and quality of the labour resources that were available to households prior to the developments of infrastructure. Thus, the participants were asked questions on the skills that they possess and how they use their skills to engage in livelihood activities that enable them to survive. The assessment of the impact on social
capital for this study focused on the social networks that people use to achieve certain needs. Social resources assessed included individual networks as well as group membership. This was done to establish how these relationships benefited them in pursuit of their livelihoods. Household access to natural resources was explored. The questions posed sought to determine how land benefited them and how this has been affected by the infrastructure development project. This was crucial as it assisted to ascertain how the resettlement maximised or minimised livelihood opportunities.

Regarding the physical assets, the study explored the built infrastructure, the production equipment and resources that permit people to pursue their livelihoods. This was done to find out how the living standards of the project affected people have changed. It also looked into how households’ livelihood activities as well as access to resources have been affected by the infrastructure developments. Finally, the study explored the status of the household’s access to economic resources. Participants were asked questions on the economic activities that they are engaged in for a living and any other ways that help them get money. This was critical, because urban economy in particular is highly monetised and access to monetary income is essential for survival. Furthermore, assessing this capital was essential because financial capital allows easy access to the other capitals thereby increasing a household’s resilience. However, the study also took into consideration that other households’ access to resources do not only depend on cash purchases.

### 3.2.6.3 Exploring the livelihood strategies employed by the households to respond to the changes

Using the livelihood assets as discussed above, this study looked at how the households function, manage and respond to the changes. Furthermore, the study assessed how resilient or sensitive the households are, given the disturbances to their livelihood assets. Lastly, the study identified how households’ capacity and resilience can be enhanced to better manage changes and situations that threaten their way of life.

### 3.7 Data Analysis

The thematic method was used to analyse the collected data. With this method, one needs to carry out the following concurrent activities: data reduction, data display and conclusion drawing or verification (Wagner et al. 2012:231). Themes or patterns that emerge from collected data have the ability to address the research question of the study (Bryman 2001:439). Although the livelihoods of all participants have been affected by the infrastructure development project, their experiences were different and a number of themes emerged. The aims and objectives of the study formed the key
themes for data analysis. Linkages between information gathered from senior members of households were drawn and applied to the key themes of the study.

Given that the interviews were conducted in South African languages which the participants were comfortable expressing themselves in, all the recorded information was translated to English during transcribing. The recordings were played repeatedly to ensure that all information was captured correctly. Patterns were identified from the data and statements with similar meaning were coded in the same way. Themes were used to address the research questions. Following this, findings in relation to the research questions were documented in the report. It is worth reiterating that the study was informed by the SLF, as the purpose was to assess how development of infrastructure affects activities and access to resources that people need in order to maintain themselves.

### 3.8 Trustworthiness

To achieve high levels of trustworthiness and minimise personal bias, strategies such as the ‘member checking’ were used to verify and confirm with the participant if the captured information is a true reflection of what was shared (Creswell 2013: 259). To ensure that the information that is presented as research findings is credible and authentic, it was essential to employ triangulation whereby interviews were combined with observations (Wagner et al. 2012: 138). Although it was anticipated that being an “outsider” and not a community member as well as a young female might influence the process during engagements with different sexes and age groups about their livelihoods, it appears that the above-mentioned factors did not affect the smooth running of the interviews. I constantly engaged in critical reflection on both the kind of information produced and how that information was created, this means that I continuously monitored my engagements and my role in the research process and examined these equally as the rest of the data (Guillemin & Gillam 2004:274). Reflexivity was also an active, ongoing process that took place in all stages of research (Guillemin & Gillam 2004:274).

### 3.9 Ethical considerations

Ethics are a set of rules that need to be taken into consideration at every step of the research design including the implementation process (Wagner et al. 2012:62). The key ethical considerations in this study revolved around the following principles. Voluntary participation was key to the study and the participants were not forced or coerced to participate or to respond to questions that they did not feel comfortable to respond to. All the participants that agreed to be interviewed were briefed about the study in a language that they understand. This was done before they signed the consent forms (see Appendix B), which indicated that their participation was entirely voluntary and that they had a choice
to stop the research whenever they wished to do so with no consequences to them. I respected the rights of people and did not deceive them. An information sheet was used to inform participants about the research study so that they could choose whether to participate or not. Furthermore, permission to tape record interviews was sought (and granted) by all participants.

I ensured that the participants’ identities were protected through the usage of pseudonyms on the notes, transcripts and reports. This was done to ensure that the participants’ views are not linked with their real names. Additionally, all recorded information is safely kept in a locked filing cabinet in my home and will be kept there for a period of five years for ethical reasons. Following the five year period, all the recordings and documents will be destroyed. Research questions were structured sensitively, and all efforts were made to minimise distress on participants. Additionally, arrangements with Khanya Family Centre in Ramokonopi West for debriefing and further counselling were made for in case there were participants that responded with high feelings of distress during or after interviews. However, none of the participants reported a need for further help.

3.10 Reflections on data collection

The study wanted to offer the affected community members an opportunity to voice their concerns and share their experiences of the social changes evoked by the developments of infrastructure in their area. All the research participants gave written consent to voluntarily participate in the study. The participants had a lot to share in a short space of time ranging from uncertainties, dissatisfactions and hopes. In most instances, there was no need for me to deliberately probe as participants were openly sharing information. It was clear that the participants always wanted someone whom they could openly talk to without fear of being judged. I was touched when recalling how the councillor did not want to open the opportunity for community members to voice their concerns and experiences of the developments. The study proved to be very important as it gave the affected community hope as they realised that at least there is someone who is interested in hearing their views and concerns. Furthermore, being heard and listened to was more important for the participants as they shared their experiences at great length without expecting anything in return. Introducing myself as a student from the University of Johannesburg, which is a well know institution in the community, helped me to gain cooperation from the participants who held the view that the study will influence the decisions of the development authorities. I ensured that participants were informed by reminding them at all times that the research study was for academic purposes only. However, this did not stop them from believing that the study in some way will reap direct and immediate benefits for the community.

The research was conducted three months after households were moved to the new resettlement area. However, community members reported that they are not yet used to the area. The participants
showed greater concern of being unable to access needed resources. It was sad to learn that even the elderly and persons with disabilities had to walk about an hour 30 minutes to get to the local clinic as the mobile clinic did not cater for chronic medicine and taxis were far and expensive. Furthermore, surviving in the area was reportedly more of a struggle than it used to in the previous area. The resettlement area is without electricity, installation of taps and toilet flushing systems is underway and all households are living in temporal structures, awaiting the development of houses. At the time of the study, the resettled community mainly consisted of the elderly, people with disabilities and the unemployed who depended on social grants. It was a concern that most of their friends and neighbours whom they depended on have been left behind and they are unable to get livelihood support from the new neighbours. Although the experiences they shared were deeply moving, I was as objective as possible as I embraced the role of a researcher not that of a therapist. Furthermore, I ensured that for every visit, I went prepared with a list of resources where participants could be referred to for professional support when a need arose.

Lastly, research participants were open and comfortable with me to an extent that they would cancel appointments at short notice to attend a funeral, meet friends and for various other reasons. This meant that I had to reschedule appointments. This challenge however did not only enhance my patience, it also served as an opportunity to understand the community member’s relationships and their social capital generally. Two participants are street vendors and during the day they are running their small business and thus invited me to conduct interviews at street corners. Interviews would then take longer than necessary due to disturbances by customers and people passing by. This also exposed me to some of their economic activities to ensure survival and improve their well-being. Being a middle-class woman, conducting research amongst the poor I felt a need to be at the same level as the people in the community. This included being cautious about the way I dressed for field work. I dressed in a township style, including sneakers, jeans, t-shirt and a cap or a dress, sandals and a hat. This dress code was not a challenge for me, because I also grew up in the township and had a clear understanding of what is expected. Additionally, I would park my car at one of the street vendors’ corner and walked from one household to the other and would often buy snacks and fast food from the street vendors. This on its own helped them to be more comfortable and openly share their experiences as they felt I was not there to judge them.

3.11 Limitations of the methodology

The findings of this study have to be seen in light of some limitations. The inability of gaining entry to the project through the authorities resulted in limited project details. Although primary data was collected, lack of information on the project poses a potential limitation in terms of the analysis. The
use of a snowball sampling technique has an embedded bias as the process involves including people who either know each other, or know of each other. This implies that the analysis and views captured in the study may be representing perspectives of people within a particular segment of the community and somewhat one-dimensional. The short time-span after the period of resettlement—three months has a potential limitation of the study. A longer period after being resettled would have provided more depth and nuances into the perceived and actual impacts of the development. Although the participants were informed that the study is done in order to fulfil the requirements for a master’s degree, they had a strong belief that the information they shared will influence the developer and municipal decisions. This expectation might have influenced the participants to give selective responses. Interviews were conducted in different African languages based on the preference of the participant. This allowed the participants to share more about their experiences as they were comfortable speaking the languages that they understand better. However, usage of African languages could have introduced linguistic bias, because some words and idiomatic expressions used in African languages do not have direct translation in English and some important information could have been missed. In conclusion, even though the sample size, eight senior members of the family, was sufficient owing to the in-depth nature of a qualitative study, the study excluded all other members of the family whom might also be contributing towards sustaining the livelihood of the household and may report different experiences compared to those of the participants.

3.12 Conclusion
This chapter discussed the justification of the use of qualitative research method and the tools and techniques employed. How data was collected from the senior members of the households and data analysis was discussed as well. The chapter discussed the steps taken to ensure that the method selected remained appropriate to the study, and that the information gathered captured both the positive and negative impacts of the infrastructure development project and its effect on livelihoods. Although challenges in gaining entry to the community are noted, alternative methods were employed and made the study possible. My own reflections on conducting the study as well as limitations of the selected method were also shared. The findings of the study will be discussed in the next chapter.
CHAPTER 4: UNDERSTANDING THE IMPACT OF INFRASTRUCTURE DEVELOPMENT ON THE LIVELIHOODS OF THE COMMUNITY OF PALMRIDGE

4.1 Introduction

In the first instance, this chapter provides background on the infrastructure development in the community of Palmridge that has existed for a number of years without basic services and resources. Following this overview, the chapter gives an analysis of the different experiences that the eight participants have in relation to the social changes that the Motheo infrastructure development project evoked on their livelihoods. It explores how the affected households perceive the social changes that the infrastructure development project brought. It also pays attention to the involvement by the participants in community affairs, which is a key component during planning, implementation, monitoring and evaluation of development projects. Thus, the study draws on the first-hand experiences of some of the affected community members as captured in the in-depth interviews. The discussions centre on the capabilities, assets and activities that the community engage in in order to maintain their livelihoods before the infrastructure developments and how it has been affected by these developments. As will be indicated later in the discussions, all participants outlined how their livelihood strategies have been positively or negatively affected by the development of infrastructure in their area, and how others are struggling to continue with their previous means of survival. The chapter also explores the livelihood strategies employed by the affected households to respond to the changes. Lastly, the data presented in this chapter was captured and transcribed verbatim. The thematic method was used to analyse the data. The four themes identified and analysed in the study are firstly, the perceptions of the social changes caused by the infrastructure development project. Secondly, the livelihood assets that people had before the developments of infrastructure. Thirdly, how livelihood assets have been impacted by the infrastructure developments. Finally, the livelihood strategies that people employ to respond to change. The SLF was used as an analytical framework to understand how people develop and maintain their livelihoods in the face of the changes that came with the developments of infrastructure in their area.

4.2 Background on infrastructure development in Palmridge

The delivery of infrastructure in communities supports economic and social development. The Infrastructure Development Bill (2013:16) mentions that infrastructure development in South Africa is a central task for the government to ensure that it serves the expanding economy and population, and that it is built, operated and maintained efficiently and cost-effectively. In its annual review of
the 5-year Integrated Development Plan (IDP), the City of Ekurhuleni shoulder the responsibility to deliver spatially integrated human settlements that respond to the need to redress apartheid geography, but also attend to immediate basic needs of people (whilst at the same time improving the liveability) in informal settlements within the Metropolitan (CoE, IDP 2019:39). Furthermore, the housing challenge in Ekurhuleni is acknowledged to manifest more clearly, because of the proportion of households living in informal settlements, with over 18% of the households in the City living in the 119 informal settlements spread across the City. The City of Ekurhuleni made a commitment to provide about 100 000 housing opportunities with the associated infrastructure by 2021 for the residents of the City working in collaboration with the Gauteng provincial government (CoE, IDP 2019:24). As such, the Motheo infrastructure development project is an aftermath of the annual and long term strategic integrated planning processes by the CoE to identify appropriate measures to address the need of infrastructure in its informal settlements (CoE, IDP 2019:13). The Motheo infrastructure development project is aimed at delivering basic services which include housing units, improved water and sanitation, electricity connections, tar road construction, storm water reticulation as well as development of facilities for the informal settlement of Palmridge Ext. 9 Phases 5 and 6 which consisted of about 4 125 households in the year 2011 (Stats SA 2011). It is important to note that the number of households in the Palmridge informal settlements has grown through the years given the uncontrolled influx of vulnerable and destitute people seeking places to stay close to urban areas and cities where they can find employment and other opportunities. This is confirmed by the results of the Gauteng community survey which presented a 6.3% increase of population in the CoE from a total of 3 178 470 in the year 2011 to 3 379 104 (Stats SA 2016:8). The Housing Development Agency (2012:12) identifies informal settlements on the basis of the following characteristics: illegality and informality; inappropriate locations; restricted public and private sector investment; poverty and vulnerability and social stress.

Infrastructure developments in Palmridge are reportedly ongoing since June 2012 where qualifying households were moved from Extension 9 Phases 5 and 6 to formal properties in Phases 1, 2 and 3. In February 2018, about 433 households were moved from Phases 5 and 6 to a newly developed area in Palmridge named Phase 4. The infrastructure developments have affected the livelihoods of households that were resettled and the eight people that participated in the study form part of the population that was moved. The move of some households has taken precedence due to overcrowding of informal structures in spaces where development is sought. Over and above creating space for new initiatives, a part of Phases 5 and 6 is exposed to natural disasters unexpectedly impacting on the community during heavy rains as the area is situated next to the Natalspruit River. Therefore, the municipality has taken up the responsibility to move those who are vulnerable to safer formal areas
where they can also access basic municipal services. This study was grounded in the livelihoods framework that considers the nature of communities, how they function and their ability to manage and respond to change. Emphasis, in particular, was therefore on assessing the social impact of the developments of infrastructure on the livelihoods of the affected community of Palmridge.

4.2.1 Perceptions of the social changes caused by the infrastructure development project

Social impacts can refer to quantifiable variables but can also refer to qualitative indicators involving changes to people’s norms, values, beliefs and perceptions about the society in which they live (Vanclay 2002:185). Thus, gathering the perceptions of the community was vital in order to establish how positively or negatively community members view the social change processes evoked by the Motheo infrastructure development project. Furthermore, this was crucial, because the ways in which social change processes are perceived, given meaning, or valued depends on the social context in which various social groups act (Vanclay 2002:192). The following discussion will focus on how the affected community was involved in the development processes of the project as well as how they feel given the changes in their area.

4.2.2 The consultation process in Palmridge

Affected communities are critical stakeholders and cannot be denied participation in decision-making and project development. This is confirmed by the NEMA (1998:12), which acknowledges the right to participation for interested and affected parties and emphasise that this right must be promoted in every possible way. Furthermore, community participation has been found to be critical as it allows for an articulation of impacts from a local perspective, reflecting a unique understanding of an individual’s community (Becker, Harris, McLaughlin & Nielsen 2003:368). The City of Ekurhuleni also formulated its own Public Participation Policy and Engagement Framework which recognises the municipality’s obligation to establish mechanisms, processes and procedures for the participation of local community in its affairs to promote participatory governance (CoE, IDP 2019:159). While a few participants had different views, the majority shared that public participation did take place through several community meetings. The most dominant view amongst participants was that the municipality and the development agent did conduct proper consultation about the Motheo infrastructure development project including the plans on the relocation that was to affect some of the community members. This was done as and when the development moved through the different phases. Participants that had a different view shared that they did not participate in meetings that took place due to other personal commitments. However, they acknowledged that they were aware of the developments through information they received from friends and neighbours.
When asked if they were consulted about the Motheo infrastructure development project and knew what to expect, participant F, a 68-year-old male pensioner and entrepreneur responded by saying:

“Yes, we were informed about the development project we were told that we will get properties that have toilets, water, electricity and houses will be built for us as well. (Transcript 6, 11 May 2018).

Furthermore, when the participants were asked to share their opinion regarding community involvement in the planning processes of the infrastructure development project, the recurring theme was that the community was consulted about the development project and were well informed about its intentions, but did not contribute to decision-making processes. It was gathered during the interviews that the purpose of the meetings called by the councillor and the development agent were to inform the community about the progress of the developments and other matters of urgency. For instance, participant B, an 80-year-old female pensioner who has been residing in the area for 18 years said:

The councillor did call meetings to inform us that there will be a development project which is intended to change the place for the better. People were told to apply and those that qualify will be getting houses in the new area while other people will remain in the older area. (Transcript 2, 1 May 2018).

It can then be questioned if “business as usual” community engagements, which are more concerned with the transmission of information to the people at the grassroots level, involved a consultation process with feedback from the community. This is highlighted due to the principles of deliberative democracy that is said to enhance effectiveness and improve sustainability of interventions, where the broader community should be included in a more equal power relationship with the decision makers. Deliberative democracy supports that communities should be given an opportunity to give meaningful input and influence the decision-making process. Therefore, improving decisions and outcomes by focusing on the search for common ground and common good can ultimately address issues of representativeness, deliberativeness and influence (Vanclay & Esteves 2011:255). While meaningful public participation has so much to offer, apparently the form of public participation conducted in Palmridge lacked community power or influence in decision-making. This is evident as shown below that participants and the community at large were consulted through community meetings where they were told about and shown pictures of the developments. With regard to community involvement in the decision-making processes of the infrastructure development project, the participants could only respond that they were involved as they attended meetings where they
received information on the developments. For instance, participant C, a 19-year-old female who is self-employed and has been living in the area for seven years, said:

*I believe the community was involved, we were called to several meetings by the councillor and the developers were part of the meetings. We were also shown the pictures of the proposed housing project and as the community we liked them and were very happy.* (Transcript 3, 5 May 2018).

Therefore, the engagements with the developer and the municipality were more of a platform where information could be delivered to the affected community better than an opportunity for the community to share their views and give input. Chess and Purcell (1999:2685) conclude that there should be a shift from defining public participation success by outcomes to the participatory processes used in the programs. According to this perspective, the characteristics of the means – rather than the results – used in public participation programs, define success.

### 4.3 How people feel about their area given the changes affected by the developments of infrastructure

As mentioned before, understanding people’s concerns is very important as social impacts do not only refer to quantifiable variables such as numbers of immigrants, but can also refer to qualitative indicators such as cultural impacts involving changes to people’s norms, values, beliefs and perceptions about the society in which they live (Vanclay 2002:185). An assessment of attitudes towards the project provides important information on the “community climate”. Furthermore, public attitudes are crucial in deciding whether the project needs to proceed and whether alterations in plans are necessary – where mitigation is needed. Moreover, knowledge of residents’ views of their community also allows a better understanding of how changes induced by the project will influence the impact area (Buridge 1990:88). While participants openly expressed their concerns during the discussions, they also held the view that they are grateful for the properties allocated to them irrespective of the challenges. As such, they showed a sense of understanding that, although other basic needs such as water and electricity have not yet reached all households, eventually they will be sorted out. Raising concerns and complaints at this stage was seen as ungratefulness and the mutual feeling was that they are somehow compelled to endure the brunt, since they do not have the means to do for themselves. Irrespective of noticing that there are certain challenges with the delivery of services, Participant B (80-year-old, female pensioner), still felt that she has no choice but to settle for less:
Well for me (Pause) I can always say there are some challenges that we are all experiencing as a community. For instance, right now some of us don’t have water in our yards. This is caused by the fact that these educated people doing developments take their own time when they do things. But on the other hand, we as people are not patient, I mean this is a new area a lot of things are still underway we will be fine in a long run. After all we don’t have money to do these things ourselves so we must really appreciate. (Transcript 2, 1 May 2018).

Additionally, participant B clearly distinguishes herself and fellow community members from the ‘educated’ and ‘powerful’ people coming with developments to the area. This says the community does not have the strength to complain as they depend on them because they do not have money and thus left with little choice. However, there was also a sense of understanding that with time all households in the area will be serviced.

Resettlements can compromise people’s livelihood activities and affect access to resources that people depend on. Participants were still very concerned about the relocation as it has disturbed some of their livelihood activities, as will be discussed later. They shared their daily struggles to make ends meet, but irrespective of their losses, of note was that all participants reported to be very happy about owning properties. In general, the reasons for their happiness were attributed to the new area being formal and promising access to basic municipal services such as water and sanitation, electricity and refuse removal and allocation of brick houses which they did not to have in the older area. Notwithstanding the challenges that people are experiencing, the joys of getting formal housing overshadowed the losses that they have incurred. Participant A, a 42-year-old female who runs her own vegetable corner store in the community said:

To be honest with you regarding business I’m not happy, but the fact that now I have a yard registered in my name really make[s] me feel good. (Transcript 1, 1 May 2018).

The International Finance Corporation [IFC] (2002:6) concurs that resettlement in urban or semi-urban settings typically results in both physical and economic displacement affecting housing, employment, and enterprises. Furthermore, a major challenge associated with urban resettlement involves restoration of wage-based or enterprise-based livelihoods that are often tied to a location such as proximity to jobs, customers, and markets. As such, the IFC recommends that resettlement sites should be selected to maintain the proximity of affected people to established sources of employment and income and to maintain neighbourhood networks.
4.4 Livelihood assets before the developments of infrastructure

Determining the livelihood assets that households had in the older area, helped in creating an understanding of how people survived before the social change processes activated by the Motheo infrastructure development project. Furthermore, this information assisted in identifying what opportunities their assets offered, and where the constraints lay. This was important, because the root of all human development and economic growth is dependent on a diverse range of activities people engage in to make their living (Helmore & Signh 2001:4). Furthermore, to have a holistic view of people’s livelihoods, Helmore & Signh (2001:87) urge that it is important to understand their activities, assets, entitlements, short term coping mechanisms as well as adaptive strategies. The following discussion will focus on the participants’ former livelihood assets, which are expressed as the physical capital, natural capital, economic capital, human and social capital.

Physical capital is important as it supports the use of a household’s other key capital areas. All participants shared that in Phases 5 and 6, their yards were big, estimated to be ranging between 200 and 350 square meters and they used to have large vegetable gardens where they would feed their families and also generate income by selling their crops. While other households lived in a one roomed informal house others owned two or three rooms constructed of different material such as woods, boards, tents and metal. Households used to collect water from the communal taps, which were central and easily accessible for all, however, there were no drainage systems in place. Since the beginning of the development, about five households are provided with a chemical toilet as an interim service delivery measure while proper sanitation is being delivered in parallel. Although there was no formal installation of electricity in the area, almost all households had illegal connections mainly from nearby street lights and electricity points, and some would rent out their cables or connect others from their supply and make money from that. Electricity connections were unstable and would often switch off due to overload and bad weather conditions. To avoid constant tripping of electricity, households would use it for lights and appliances such as television sets, radio and refrigerators while they cook with paraffin, coal or gas stoves. Those that could not afford these fuel sources would collect wood in the veld and use that for cooking. The illegal electricity connections were reported to be unsafe for children, especially during the rainy seasons as they were in the open and could electrocute them and some incidences where this happened in the past were shared. In Phases 5 and 6, resources such as shopping centres, clinics, hospitals, schools and police stations were more than 8 kilometres away from the community, but were easily accessible. This is because there was a taxi rank in the area and taxis were always available for all throughout the day. Furthermore, taxis were able to drop people off closer, if not at their preferred destinations. Thus, although Phases 5 and 6 did not have resources, community members were satisfied with regard to mobility as they had options...
to either use public transport or walk to their different destinations as the distance from resources was manageable. For instance, participant D, a 40-year-old female who is unemployed and has six people in her household, said:

_Taxis for me were not very far and I would utilize them to access other resources that are in the neighbouring communities as our area did not have resources._ (Transcript 4, 5 May 2018).

Participant A, a 42-year-old female from a household of eight members, reiterated:

_My children attend school in Tokoza and have to walk all the way back to Phase 3 to catch the bus to school._ (Transcript 1, 1 May 2018).

Rakodi and Lloyd-Jones (2002:12) have found that direct access to and the use of natural capital is, in some respects less significant to the urban poor. Contrary to this, the study found that the community of Palmridge was benefiting from the land in various ways. The most common usage of land in the area was for subsistence farming and cutting wood for fuel. Furthermore, the Gauteng community survey 2016 supports that a large number of households in Gauteng who live in urban areas benefit from agricultural activities and Ekurhuleni reports 38 364 households who were involved in vegetable production (Stats SA 2017:53). Redwood (2009:1) says that urban agriculture has long been dismissed as a fringe activity that has no place in the cities, while in reality urban agriculture is found in every city. He further elaborates that urban agriculture is a long-established livelihood activity that occurs on all scales from a family garden to a large agricultural business making an important contribution to food security for those who do not have easy access. Similarly, participants articulated how productive their gardens were and they highlighted their ability to contribute towards maintaining their families. Not only were people able to feed their families, they were also able to share with their neighbours and friends while they could also sell some of their produce and make money. Even though Palmridge is in an urban area, access to land is of great importance for livelihood support of the community concerned. When participants were asked if they are experiencing any conflict regarding access to natural resources. Participant D (40-year-old, female from a household of six members) said:

_Yes, I don’t have a vegetable garden here_ (Transcript 4, 5 May 2018).

When probed to share more on her inability to start a vegetable garden she elaborated:

_The challenge here is water, and that yards are very small compared to the previous area..._ (Transcript 4, 5 May 2018)
Additionally, participant H, a 42-year-old male who is employed on part-time and has 4 people in his household, said:

*The land, I had a vegetable garden in my backyard and the older area was not far from the veld where we used to collect wood for fire.* (Transcript 8, 11 May 2018).

From reliable sources consulted in the Municipality offices, Palmridge’s economy has historically been heavily dependent on the local farms. Farms were the leading source of employment in the area. Most men and women were employed in the farms until the late 1990’s where farmers sold their land. Thus, the township’s dependence on the farms placed it in a position of low economic viability, with little resilience to downturns in the industry. Loss of income resulted in a huge number of poverty-stricken households. Many families began planting their own small gardens for survival and engaged in informal business activities including handy jobs. Some community members are employed in the neighbouring towns. However, those who are unemployed mainly depended on social grants, engage in various activities to augment the grant and often seek credit from loan sharks when they run out of cash. Participant G, a 66-year-old male pensioner, had this to say:

*Getting money was easier for me in the older area than it is here. Pension was an add on but here I have to make sure that I use it wisely because it’s my only source of income or else will find myself queuing at the loan shark’s home and create more problems for myself.* (Transcript 7, 11 May 2018).

Helmore and Singh (2001:4) state that “The poor almost never have jobs, but they are always doing jobs.” Thus, Phases 5 and 6 did not only offer better economic opportunities, it also had credit facilities that the poor urban households could access for them to survive. Furthermore, the community of Palmridge has shown that people do not solely depend on entitlements such as social grants, they still make effort to enhance their wellbeing.

The livelihoods approach emphasises the need to recognise that those who are poor may not have cash and savings, but do have other assets such as their labour, their knowledge and skills (Rakodi & Lloyd-Jones 2002:10). As such, I enquired about the skills that people have while considering their strengths and assets rather than viewing people as passive and deprived. The eight participants interviewed, who are all heads of households, reported low levels of education and occupational skills. The elderly and people with disabilities mainly survived from social grants, while the unemployed survived from the child support grant, handy jobs as well as selling goods to the public. It was evident that, although Palmridge has a high rate of unemployment, people had different means and engaged in various activities for survival. For instance, the participants that survive from selling
goods, who are mostly women, shared how their abilities to market their business, negotiate and persuade customers have helped them survive for many years without formal employment. These participants also shared that their willingness to give credit to community members has built trust and have ensured the sustainability of their businesses. Similarly, the men revealed that their handy skills were able to feed their families. These participants were also confident that the new area has potential for many jobs, but that they currently still depended mostly on their older networks to get jobs. Rakodi and Lloyd-Jones (2002:10) are right by saying that the lack of human capital in the form of skills and education affects the ability to secure a livelihood more directly in urban labour markets. However, the study in Palmridge has shown that, although people may struggle to get formal employment due to their low levels of education and skills and resort to low return-activities, they are able to sustain their livelihoods through using their existing knowledge and skills. People engage in various income-generating activities in ways that augment the social grants that they are receiving from the State.

Social capital is the degree of community involvement in processes aimed at maintaining community wellbeing (Vanclay & Esteves 2011:332). The existence of Palmridge informal settlements can be traced back to the late 1980s where labourers of the local farm occupied the land as it was near their place of work and were eventually joined by other people searching for jobs and places to stay not far from the industries. Participants in the study moved to the area between the year 2000 and 2013. People have developed sufficient knowledge and understanding of life in Palmridge and through the years have built a number of social networks, which underpins the area’s social vitality. Some of their networks were friends, neighbours, community-based organisations, religious groups, established groups such as stokvels (a type of saving scheme particularly found in developing communities) and burial societies (networks within communities to cope with the cost and shared responsibility of death), neighbourhood watches and others. Social networks were reportedly a fundamental way for supporting their livelihoods. Phases 5 and 6 had about 4 125 households (Stats SA 2011) which consisted of diverse races and ethnic groups. However, they developed a community culture which was well understood by all. It involved participation in community activities and gatherings, offering contributions and voluntary work to families in need and being on the lookout for one another through participating in the community crime prevention initiatives such as the neighbourhood watches. These activities involved mutual participation that reinforced social capital and strengthened social cohesion. Additionally, the community became more connected and members got to know each other such that they could easily recognise strangers and those that are trespassing. The concept of ‘Ubuntu’ (Personhood), which is dominant in African ethnic groups, gives a good explanation of the importance of social networks in communities. Africans pronounce that: ‘Umuntu ngumuntu ngabantu’ (Nguni) this roughly translates as: ‘One becomes a human being through other human
beings’. Thus, personhood in African thought is defined relationally with the view that people do not exist alone (Ratele, Duncan, Hook, Mkhize, Kiguwa & Collins 2004:4-24). The area also had an established community leadership structure which was elected by the members of the community themselves. This structure facilitated community interactions and also contributed to collective action and cooperation in issues that affect the community. Almost all participants interviewed indicated that they were members of groups that served as support systems towards their livelihoods. Some participants shared that the community-based organisations and religious groups used to provide food parcels, emotional and physical support to them. While at a household level, some participants received assistance from their families for livelihood support. For instance, participant H, 42-year-old male, who is employed on part-time basis, said:

_I have two siblings. My two sisters are always there for me during tough times and I mostly prefer to seek help from family than to keep on bothering neighbours and friends._ (Transcript 8, 11 May 2018).

Helmore and Singh (2001:4) confirm that livelihoods can also depend on entitlements, such as the support of family or clan that can be called upon in times of crisis. Contrary to this, Rakodi and Lloyd-Jones (2002:10) have found that levels of social capital and the ability to call on the social networks vary in space and time. Furthermore, they may break down because of repeated shocks, economic crisis or physical insecurity. Thus, people may have social networks to draw from in times of need, but these arrangements are not always effective or permanent. This was confirmed as participant E (58-year-old female and unemployed) said:

_It’s tough when children grow and start their own families the situation becomes tougher..._ (Transcript 5, 5 May 2018).

In conclusion, three of the eight participants mentioned that they preferred to do everything for themselves and not depend on others. However, of importance is that in Phases 5 and 6, participants had created good relationships with their neighbours and friends, and they acknowledged that in one way or the other people carried some responsibilities for one another which went beyond financial and physical assistance. Lastly, people would not suffer in silence, as they knew that they are there for one another.
4.5 How livelihood assets have been impacted by the infrastructure development

Sustainability is the main indicator of success of interventions that are aimed at improving people’s lives. This idea is supported by Helmore and Singh (2001:88) who mention that projects that focus on empowerment and improvement of livelihoods stand a much better chance of surviving compared to those that do not. Thus, support for existing livelihood systems ensures sustainability and seeks to increase productivity (Helmore & Singh 2001:89). Admittedly, the infrastructure developments in Palmridge will, in a long run, enhance people’s standards of living and boost the local economy. However, the current observation is that while the infrastructure development project delivered “what people need” for some it did not improve their livelihoods but has increased their vulnerability instead. Helmore and Singh (2001:90) point out that, traditionally, the concept of development has been defined in terms of infrastructure while it should focus on people, their attitudes and practices. The authors argue that it is crucial to empower individuals so that they take responsibility for their own development, including looking after the infrastructural matters that complement the changes that have taken place within the individual. Furthermore, focusing on the individual shifts the perception that the poor have of themselves from one of helpless victims of circumstances to one of capable actors who can control their own destiny.

Given the social change processes evoked by the Motheo infrastructure development project it was necessary for me to find out how the livelihood assets of the affected households are impacted. Resultingly, the participants were asked to share how their capabilities, assets and activities to support their wellbeing have changed as a result of the developments on infrastructure in their area.

4.5.1 Declining access to resources and facilities

Access to public transport is crucial for people’s mobility. Changes on access to resources do not only have a negative effect on resident’s perceptions it can also change the image of the community, which may also influence whether outsiders will visit, live or establish business in the area (Burge 1990:92). Phase 4 was reportedly having challenges with access to transport amongst all age groups. The common mode of public transport in the new area is taxis. Alternatively, people need to hire private vehicles, which were reportedly very costly. Taxis were reported to be inaccessible and not affordable for a large number of commuters who greatly depend on them for moving from one place to the other. Moreover, taxis were found to be unreliable, as they do not deliver people back in Phase 4 where they collected them. As a result, people are forced to walk nearly two kilometres from where the taxis drop them to their destinations. Participants were concerned that not only does the distance limit the amount of goods that they can carry, it also puts them at a higher risk of being robbed of their
belongings, especially during the early hours of the morning and at night. It was gathered that Phase 4 does not have any resources and therefore community members depend on resources and facilities from other areas. Participants reported that school children have to walk about 3 kilometres to catch the school bus in other areas within Palmridge, while adults walk to different destinations if they do not have money for taxis. Thus, transport constraints are affecting the livelihoods of community members in Phase 4 as they use a lot of their money on travelling to neighbouring communities for resources and are often late for their appointments. When asked if they have experienced any change on access to resources and facilities, participant D (40-year-old female, unemployed and has six people in her household) said:

Yes, here transport is very far and coming to this area using taxis is more expensive than it was in the previous area. So, it is a struggle not only for adults but school children as well because either you pay a lot of money or you will have to walk a long distance. (Transcript 4, 5 May 2018).

Inaccessibility and the high cost of transportation have greatly affected the mobility of other groups such as the elderly and people with disabilities. One of the mostly needed resources highlighted by these participants was the clinic. Although a mobile clinic comes to Phase 4 three times a week, some community members are not able to get assistance from the mobile clinic as they collect medicines that are issued after examinations in the clinic only. This has left people with the responsibility to make means to travel to the clinics in other areas for assistance. Some participants reported having skipped their dates to attend clinic as they do not have money for the taxi and are not in a position to walk long distances due to their poor health conditions. Burge (1990:93) concurs that physical barriers constructed by development projects affect mostly the elderly and people with disabilities as these groups have low income and may be unable to afford increased time and expense to continue former relationships. They are therefore likely to be cut off from support networks. Participant B, an 80-year-old female pensioner, said on the inaccessibility of resources:

Clinic is very far (Silence)...as we speak my date has passed I'll have to come up with a story for the nurses to assist me or else they will turn me back or put me last in the line. (Transcript 2, 1 May 2018).

Participant G a 66-year-old male pensioner who has been very ill for a period of over three months, reiterated on the struggles to access resources by saying:

There is no resource closer to this area, I mean none. Clinics, hospitals, shopping malls, police stations are all in neighbouring communities... (Transcript 7, 11 May 2018).
The participants also stated that Phase 4 does not have electricity. They expressed their struggles to buy foods such as meat, fruits and vegetables, stating that they must do so in small quantities as they do not have proper storage to keep their food fresher for longer. This has resulted in households not buying bulk perishable foods and forces them to travel more often to local stores to buy food as their fridges are not connected to electricity. Lack of electricity in Phase 4 was reported to be affecting the financial resources of the community as buying in bulk saves time and resources. Thus, the infrastructure development project has caused adverse environmental changes leading inhabitants to alter their movement patterns and social habitats.

4.5.2 Conflict with regard to access to natural resources

Nature can be a source of livelihood especially to those who have the skills and knowledge of how to benefit from it. The findings show that almost every household in Palmridge owned a garden in Phases 5 and 6, which they greatly depended on for food. The participants indicated that the land was very productive as they were able to feed their families and they could sell their produce. Furthermore, the community had access to trees in the nearby veld to cut wood for fuel, while in the new area they have to buy wood and coal for fire as the veld is more than 4 kilometres away. It was also clear that when people were moved due to the developments of infrastructure from Phases 5 and 6 to Phase 4, they lost their gardens and access to wood. Some households have planted vegetable gardens in Phase 4, while some are not able to do so as they are waiting for water to be connected in their yards and for houses to be built so that they see how much space will be left and where to position their gardens. The resettlement has affected the livelihoods of households for they had to leave behind their grown gardens to prepare and plant new gardens in Phase 4. Those who have not been able to start gardens shared that they have to spend money on buying fruits and vegetables which they used to get at no cost in their backyards. In this regard, the resettlement has resulted in food insecurity and loss of access to common property which was used to benefit the affected households. Additionally, the financial resources of the resettled community have been affected as they need to spend cash on resources that did not require money in the older area. Participant D, a 40-year-old female who has been living in Palmridge for 16 years, had the following to say about the inability to access natural resources:

*I had peach trees and vegetable garden with lettuce, mealie and tomatoes. (On a low tone)*

*This is one thing I feel I lost by coming here.* (Transcript 4, 5 May 2018).

Participant H, a 42-year-old male who has been living in Palmridge for eight years, reiterated this by saying:
The vegetables were growing very well. I used not to struggle with food and also when it’s cold I used to have enough wood for fire. (Transcript 8, 11 May 2018).

Loss of agricultural land can reduce the livelihoods resources of the communities living at subsistence levels. Stabinsky (2000:266) confirms that environmental impacts on the biological diversity on which the communities depend could make it difficult for the community to continue supporting itself as its way of life would have been disturbed.

4.5.3 Reduction in labour resources available to households

Labour resources available to households have been found to have both quantitative and qualitative dimensions. According to Rakodi and Lloyd-Jones (2002:11), the quantitative dimension refers to the number of household members and time available to engage to income earning activities, while the qualitative dimension refers to the level of education, skills and health status of household members. Health is an important factor when it comes to livelihoods, because when people are sick it can affect their ability to engage in activities that support their livelihoods. In this study, participants with poor health conditions reported their inability to continue with their previous livelihood activities or engaging in new income generating activities. For instance, participant E a 58-year-old female who has a chronic health condition, said:

*My living standards have dropped. Although the moving from the other area might have contributed by adding the distance between me and my resources but, I think it has a lot more to do with my disability, because now I can’t do anything on my own. I depend on other people, so the situation is worsening each time. My children have their own families as well to take care of.* (Transcript 5, 5 May 2018).

This shows that, when people are sick or debilitated, it minimises their ability to work and provide adequately for themselves and their families, thus impacting their livelihoods. When I enquired about skills that can help one survive in the new area, Participant E said:

*The skills that could help me is selling goods to people but with my condition I can’t do this because I can’t walk long distances, but I’m also considering selling small things like sweets, snacks and ice lollies here in my house, but it might still be a challenge as I need to go to stores to stock these products when they are finished* (Transcript 5, 5 May 2018).

The participants with poor health conditions reported that they are not able to provide for their families and thus depend on others for livelihood support, which comes with its own challenges. Participants reported physical weakness and tiredness of walking long distances to different places.
and to access necessary resources. For instance, the unbearable distance between the area and the clinics, the lack of funds to utilise public transport and the unreliability of taxis in the area has made some community members overlook their health. Some participants have skipped their dates for collecting medicines at the clinic, while those who are due to collect are not sure if they will be able to make it. Ultimately, this increases people’s risk of illness threatens their quality of life and enhances their inability to work and provide for their families. Vanclay and Esteves (2011:332) confirm this by stating that a highly remote community that lacks access to basic facilities and other social services may lack the capacity to enhance its local human skills base, and that a community is likely to be disadvantaged in capitalising on opportunities for further industry development and economic capital growth. Existing literature points out that resettlement is an overwhelming experience that can be the root cause of stress that has a negative impact on people’s health. Vanclay and Esteves (2011:188) agree that stress has physiological, psychological and socio-cultural components that are synergistically interrelated. The authors continue to say that physiological stress is associated with increased illness and death rates. Additionally, psychological stress has been associated with anxiety and higher death rates among the elderly. Finally, sociocultural stress is associated with the departure from preferred homelands or communities, as well as problems associated with the resettlement area.

4.5.4 Changes on income generating activities

Participants shared different experiences with regard to how the infrastructure development project has affected their economic productivity. Thwala (2009:318) found that urban renewal infrastructure development projects have the potential to redress the problem of disproportionately high unemployment in South Africa and can also correct the skill deficits in disadvantaged communities. Similarly, this study found that the Motheo infrastructure development project has been able to offer employment opportunities that match the occupational skills of the unemployed individuals in the area of Palmridge. Furthermore, the criterion that was used to select people did not increase social inequity as opportunities were for both males and females, and although the target group was the youth, the project also gave employment opportunities to the unemployed whom were above the age of 35 years. However, other than the limited positions available in the Motheo infrastructure development project it is unclear what economic opportunities are available to the local community. The families that have been able to secure a job benefited as it also increased their ability to have financial reserves. However, for those that did not get job opportunities, the infrastructure development project has indirectly enhanced economic inequities as the relocation to Phase 4 resulted in them losing their previous economic activities and business opportunities that used to be an integral source of their livelihood. The relocation has therefore impoverished some households as they continue to experience a downward spiral of poverty (Vanclay 2002:196). Scudder (2011:37) stresses
that the adverse social impacts of development-induced compulsory resettlements continue to be unacceptable as it reduces the potential and purpose of development projects by creating a new poverty amongst the project affected people. Although in this case resettlement was not compulsory, it is important to acknowledge that the resettlement of the community of Palmridge was development-induced. Moreover, minimal consideration of the sustainability of livelihoods has exposed the project affected people to various struggles in maintaining themselves.

Participants who mostly depend on social grants shared that they did not experience any change on income as a result of the infrastructure developments. On the other hand, those who survived mainly from small businesses reported a great loss, since in the new area they could not engage into some of their previous activities, owing to various challenges. For instance, participant A, a 42-year-old female who survives from selling goods to the community said:

*I can say that side business was better; I had a lot of customers. People were used to me; even if they do not have money, I would give them credit.* (Transcript 1, 1 May 2018).

When probed to share more on her loss, she responded:

*Ja, you see here we only have less than three months and we do not know each other. Additionally, a lot of people here are unemployed and are sceptical to take credit. This makes me to remain with stock for longer periods waiting for cash buys only. Also, the fact that there is no electricity here has made me stop some of the things I used to do to make money, things like selling beef bones, ice and cool drinks I can’t do that with no refrigerator.* (Transcript 1, 1 May 2018).

Furthermore, in Phases 5 and 6, other community members used to get income from illegal activities such as connecting electricity for themselves and renting it out to their neighbours, which they can no longer continue with in the new area. Their struggles are confirmed by Vanclay and Esteves (2011:189), who found that resettlements are often associated with an increased government presence. Thus, people who are resettled often find it more difficult to re-establish illegal activities, which were often an important part of their livelihoods.

### 4.5.5 Loss of social networks

People need support in various ways from their networks in order to cope with challenges of life. Throughout the month of February 2018, groups of 50 households at a time were relocated from Phases 5 and 6 to Phase 4. These movements have resulted in social disintegration, as people were not moved with the neighbours they had before. Participants reported having new neighbours whom
they have not yet built relationships with. This was evident as some of the participants shared that they hardly go to their new neighbours to seek help. Thus, there is nowhere people can turn to for assistance. The findings show that people have left behind their support structures, which they greatly depended on, and they are unable to maintain contact with their previous networks due to the distance which is approximately 3 kilometres. The participants stated that the distance between the two areas requires them to spend more money on airtime and invest more time in travelling to visit. When asked where they get livelihood support in times of hardship, participant A, a 42-year-old female who depends on her small business, said:

*Nowhere, here I don’t have a person that is helping me* (Transcript 1, 1 May 2018).

Participant D, (40-year-old female and unemployed), reiterated:

*I usually turn back to my family or the previous relationships that I had.* (Transcript 4, 5 May 2018).

Traditional cultural practices such as *stokvels*, burial societies and household contributions when there is a death in the community, have consequently been affected. Some participants reported that they are happy with the current setting as they did not participate in group activities in the older area due to sour relationships with their neighbours and view coming to the new area as an opportunity for a fresh start. However, those that were members of network groups in the older area held the belief that the older systems brought the community together and should work even in the new area. All participants that are members of a network group still belong to their previous groups in Phases 5 and 6, but strongly support the view that Phase 4 should also have group networks as it would cut costs and time for them. However, people in the new area do not adhere to these practices as they are still undergoing the process of getting to know each other and building new relationships.

The resettlement has significantly separated the elderly and people with disabilities from their previous support networks and this was reportedly very stressful for the individuals concerned. Research has demonstrated that certain categories of relocates such as the elderly, poor, long-time residents and minorities suffer more from displacement because re-establishing former life and friendship support systems for these individuals is difficult (Burdge 1990:88). Participant B, an 80-year-old pensioner, who stays alone, explained the value that she attaches to networks groups:

*Society is helpful because, when I don’t wake up tomorrow, they will ensure that I get a decent burial. Church is my home you know that is where I go for spiritual wellness and socialising. The pastor and his wife used to come collect me to church on Sundays and drop me off as well. Now they don’t know where I am, and I don’t have their numbers. They used to visit me*
and the pastor’s wife is very young, but heeyy she loves the elderly and takes good care of them. (Transcript 2, 5 May 2018).

Over and above this, the elderly and people with disabilities were the prioritised social groups. Thus, they were the first groups to be resettled in Phase 4. This has resulted in the elderly and people with disabilities only having neighbours who are more or less the same age as themselves and have a disability. Participants shared their feelings of isolation as they are unable to easily access people from different age groups and those without a disability who could help them when they need assistance. Participant E, a 58-year-old female who is unemployed and has a disability that prohibits her from walking long distances, shared her struggles of being unable to start a business to support her livelihood. Especially because the business that she has in mind requires constant travelling to stores to buy stock while she does not have anyone in the family or in the neighbourhood who can assist in this regard.

4.6 Comparison between former and current living standards

Regardless of the challenges experienced in the new area, many participants viewed their living standards as having increased compared to the former area. This is mainly because of the change of environment from a squatter camp to formal properties where they are assured ownership and proper infrastructure. However, a holistic observation of the living standards of the community members that were resettled at the time when the study was conducted, could be reported to have dropped as in the new area the most needed basic services are not yet in place. For instance, the area does not have electricity, installation of taps in yards is still underway and needed resources such as the clinics, schools, public transports are even further away than they used to be, demanding more costs and time from the affected population. For instance, participant D, a 40-year-old female who is unemployed and was concerned about accessibility of resources, stated:

... Here transport is very far and coming to this area using taxis is more expensive than it was in the previous area. So, it is a struggle not only for adults but school children as well because either you pay a lot of money or you will have to walk a long distance. (Transcript 4, 5 May 2018).

Community members who survived from agricultural activities must also prepare and plant new farms and gardens. Those that survived on small businesses and small jobs must find new clientele and engage in different business opportunities, while those that survived from illegal connections of electricity cannot continue, as the area does not support this activity. Participant C (19-year-old female and self-employed) had this to say:
The development project has not positively changed my livelihoods. Actually, I feel that instead I have lost a lot when it comes to my business. (Transcript 3, 5 May 2018).

Scudder (2011:39) confirms that resettlement is likely to demand a change in occupation for survival as it does not support other activities that people did previously for survival. Additionally, the social networks, which were helpful in sustaining livelihoods, are no longer accessible and the new neighbours are still in the process of knowing each other and building relationships. The inability to seek help from the new neighbours has rendered households helpless in times of hardship. For instance, when asked how the infrastructure developments affected the culture of the community, participants F, a 68-year-old male pensioner who has been residing in Palmridge for 10 years said:

_We are strangers here. We do not know each other that much. Each person is minding their own business that is what I believe has changed so much._ (Transcript 6, 11 May 2018).

Research has found additional reasons why a drop in living standards for the majority of people that are resettled should be expected. One relates to the long planning horizon for major developments where government and other agencies are unlikely to improve infrastructure such as schools, social services and others within project areas, as is the case in Palmridge where people are forced to travel distances to access resources as the new area does not have. Secondly, resettlement has been found to be an overwhelming experience that comes with various consequences for those that need to be resettled and lastly, the multidimensional stress and reduction of cultural inventory can have adverse impacts on livelihood (Scudder 2011:39). As such, the Motheo infrastructure development project has worsened the living standards of the resettled community of Palmridge; socially, culturally as well as economically compared to those neighbours and friends who did not require resettlement.

### 4.7 Impacts on the basis of gender

Interviews were conducted with both males and females who are heading households. Helmore and Singh (2001:8) insist that, when gathering information on livelihoods, it is important to solicit information about assets and livelihood strategies from both men and women as these groups experience life differently. Additionally, Vanclay and Esteves (2011:117) mention that, since women and men play different roles in societies, their capacities to get hold of the opportunities provided by new infrastructural development projects, and to cope with risks and fall-outs from such investments, vary. Thus, this study ensured that the experiences of men and women were captured. Furthermore, from the data collected it is evident that the impact of the Motheo infrastructure development project is, without a doubt, different for men and women and these differences will be discussed below.
It was found that the Motheo infrastructure development project gave employment opportunities to semi-skilled and unskilled men and women in Palmridge. Participants shared that the role of men as heads of households in the area is limited to earning cash incomes to support themselves and their families. On the other hand, women reported to be engaged in activities where they earn cash, but also have additional responsibilities such as household chores and caring for children which puts them under pressure. Verloo and Roggeband (1996:6) acknowledge that women do a great deal of useful work without any payment at all. For instance, these authors note that in most societies caring is an individual responsibility of women and not a collective or shared responsibility. This is an indication of how the two groups might suffer the consequences of labour differently as societies have a gendered division of labour. Verloo and Roggeband (1996:6) define “gendered division of labour” as complex values, norms, rules, and practices in the field of labour, where an asymmetrical distinction is produced between women and men, between paid and unpaid labour, between work inside and outside the home, and between male and female tasks and professions.

The community of Palmridge experienced a change to some of their income generating activities due to the resettlement. For instance, unemployed men reported to be experiencing changes in terms of access to their customers in the older area. However, they shared that this has not stopped them from continuing doing handy jobs in other areas where they are referred to by different sources. On the other hand, women have completely lost some of their income generating activities. For instance, participant A, a 45-year-old female used to sell frozen goods in the older area and cannot continue with this as the new area does not have electricity. The resettlement has thus collapsed sources of income mainly for women.

The community of Palmridge lost their grown gardens when they were moved. The loss of fruit and vegetable gardens undermines food security in households. Furthermore, Vanclay and Esteves (2001:191) mention that the resettled communities are left with a responsibility to clear, plant and harvest enough to feed their families during the year or years immediately after removal. Redwood (2009:13) points out that women are highly represented in urban agriculture and thus play a significant role with regard to food security in households. Similarly, the unemployed women in Phase 4 reported to be spending most of their time clearing the land and preparing it for another garden while men are at work and engaged in other activities. Clearing the land is a hard-labour activity, which leaves women exhausted and threatens their health. Over and above this, other numerous productive and household duties still wait to be attended to by women in households. For instance, when data was collected on 1 May 2018, not every household had water connections in their yards. Unavailability of water taps in the yards poses a challenge mainly for women, as they are responsible to go collect water at a communal tap for domestic use. This means that they must queue
and carrying heavy loads of water, which confines women to the house and minimises their participation in income generating activities.

From the interviews, it was found that all community members are concerned about the distance between the new area and essential resources such as the clinic. However, women are more vulnerable as they and their children mostly use this resource. Over and above going to the clinic when they are sick or to collect chronic medicines, women often visit the clinic for family planning and immunisation of children. Some women confessed having skipped dates to attend clinic as they do not have the money for transport and are tired of walking. Thus, women bear the burden of travelling costs for accessing health facilities.

4.8 Livelihood strategies employed to respond to change

People strive to maintain their livelihoods within a context where they are faced with threats to their way of living. Furthermore, the livelihoods of the poor are determined predominantly by the context in which they live and the constraints and opportunities this location presents (Rakodi & Llyod-Jones 2002:37). This study explored how the affected community members respond to the changes caused by the Motheo infrastructure development project. This was done in order to assess how vulnerable or resilient the affected households are to the changes. The participants were therefore given an opportunity to share the strategies that they employ to deal with the changes. From the data collected, it is evident that, while some households are able to respond to change successfully, others are unable to make progressive shifts. Adaptive strategies are the changes and adjustments people make in their livelihood systems in order to cope under difficult circumstances (Helmore & Singh 2001:3)

With access to resources being a major challenge, participants shared that they currently give themselves more time for travelling to different destinations if they do not have enough money for paying private transport or taxis. These participants can be seen as resilient and adapting to the changes while, on the other hand, other participants were vulnerable. For instance, Participant D, a 40-year-old female who is unemployed, has four children and is depending on her partner was overwhelmed by the changes and has relocated her children to stay with her extended family to ensure easy access to schools at no additional cost until she is settled in the new area and finds a job. Participants also shared that there are ongoing discussions between the community leaders and the local taxi association to open up a taxi rank in the area to address the struggles of accessing taxis.

Maintaining access to natural resources has been easy for some households, while others continue to struggle. Some participants have already cleared the land and began planting their vegetable gardens in Phase 4. Other participants have not begun, as they are concerned with the space in the new yards.
The new yards were reported to be smaller than those people were moved from in Phases 5 and 6. Space was therefore viewed as the major constraint prohibiting a number of households to start vegetation in their yards, as they are not sure about the exact spot where the house will be built and they do not know how much space will be left for them to grow crops. These participants shared that they continue to maintain a balanced diet when they were moved from Phases 5 and 6. They have managed to cut some *morogo* (dark green leafy vegetables) and dried it for future consumption. Furthermore, they buy fruit and other vegetables in the local corner stores as they are lesser priced than the well-established retail stores in town.

Although Palmridge is characterised by a high number of unemployment, people engage in different activities in support of their livelihood. The unemployed participants reported that they are content with the skills that they currently have and affirmed that they are surviving irrespective of the challenges that they face. Some however indicated that they do have a need of additional resources in order to enhance their business and to reach out to more customers. For instance, participant D, an unemployed 46-year-old female, who comes from a household that has six members, shared that owning a fruit and vegetable corner shop has helped her survive for many years and she does not need to change this. However, she shared her wish of having a car, which would help her reach to more customers in other areas, but indicated that since she does not have a car she uses a wheelbarrow to go around the community and sell her goods.

Having lost some of his income generating activities, Participant G is considering starting a recycling business, but is hesitating as he foresees the business not bringing enough income since most people in the township are into recycling. As a result, he has been postponing starting to collect recyclable material. He is surviving on his pension money and when it is finished, he goes to get credit from the local loan sharks who charge high interests and demand to keep his Identity Document and pension card until payments are finished.

All participants reported a loss of social networks by coming to Phase 4. However, some participants continue to visit friends and family in the older area, while some maintain relationships by using their cell phones to text, call and chat with friends on other networks. Additionally, most participants have faith that strong relationships will be developed with their current neighbours and are working on building these relationships.

### 4.9 Conclusion

This chapter has indicated the extent to which people’s livelihood assets have been affected by the infrastructure developments. The chapter also outlines that the development of infrastructure is a
complex process that comes with consequences that need proper planning and monitoring throughout the project lifecycle. The Motheo infrastructure development project focused on service delivery, which holds significant value to the affected households, but did not take into consideration the need to support and rebuild livelihood assets of the affected households. Allocation of formal stands with guaranteed tenure have proved to be insufficient as households lost some resources and activities that used to be essential to support of their livelihoods. This, reduced the purpose of what was initially supposed to be a beneficial development, to a development that exposes people to a different kind of poverty, which worsens their struggles.

This chapter explored the experiences and consequences of the Motheo infrastructure developments for the community of Palmridge. It used the SLF to understand how the livelihoods of the households have been affected. The loss of their income generating activities, access to resources and social networks which they had built over years however continues to challenge them as they struggle to maintain their livelihoods. Additionally, the chapter discussed how impacts can vary for different social groups, since communities are not homogeneous units. Finally, the strategies employed by households to respond to change were discussed, showing how resilient or sensitive they are to changes in their environment.
CHAPTER 5: CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction
Access to secure shelter and basic services is considered as vital to the reduction of poverty. The South African Government has taken responsibility to deliver basic needed services to its population by delivering the necessary infrastructure in communities. The challenges that face these initiatives of developing environments where people live is that more attention is paid on delivering services and less attention is given to preserving the livelihoods of the affected people. The approach for developments to be sustainable is that they should focus on people, their attitudes and practices (Helmore & Singh 2001:90). In this way, people are empowered to take charge of their own development. Furthermore, these challenges are exacerbated by the fact that the assessment of project impacts are generally done during the projection phase and are never monitored. This means that the impacts that emerge during project implementation and after the construction phase are ignored. An assessment of project impacts cannot be done once-off, as other impacts that can harm communities are not addressed.

This chapter provides conclusions and recommendations drawn from the research question, objectives and findings of the study. The SLF proved to be a good tool in understanding the relationship between people and their environments and how changes to the environment can affect the ways in which people maintain their means of support. It allowed me to understand that people engage in different activities, engage in relationships and have certain insights into their livelihoods and the disturbance to their ways of living may create challenges to maintain their households.

5.2 Overview of research objectives
It is critical to note that the delivery of infrastructure does not only relate to delivering services and resources that people do not have, but also talks to the support of the livelihoods of the affected communities. It is important that developers do not only aim at quantitative deliverables, but also at ensuring that the interventions cause minimal disturbances to the ways people survive. Loss of assets that support livelihoods is a particularly sensitive issue as it undermines the ability for households to meet their basic needs and support their wellbeing, thereby becoming vulnerable to changes that confront them. It therefore becomes crucial that developments and interventions be situation-specific and tailored to meet the livelihood needs of the affected communities.

This study aimed at assessing the social impacts of the Motheo infrastructure development project on the livelihoods of the community of Palmridge. There have been a considerable number of studies on
social impacts due to various development projects, but these studies address the projection of anticipated impacts as part of an ex-ante or ‘in advance’ process, thereby the actual impacts that emerge during and after project implementation are not covered.

The findings were able to address the following research question: “What are the social impacts of the Motheo infrastructure development project on the livelihoods of the community of Palmridge Ext. 9 Phases 5 and 6?” The following sub-questions were formulated in order to address the main research question:

- How does the community of Palmridge Ext. 9 Phases 5 and 6 perceive the changes that the infrastructure development project brought?
- What livelihood strategies do Palmridge Ext. 9 Phases 5 and 6 community members use to respond to the changes?

This study contextualised the research question by reviewing the available literature on infrastructure development and the need for its development in communities. The first chapters sought to provide an understanding of how development of infrastructure can affect people’s livelihoods. Furthermore, a participatory approach of assessing project impacts and the SLF by the DFID were reviewed.

The study presented the experiences of the social impacts of the Motheo infrastructure development project on the livelihoods of the affected households in Palmridge. Its key focus was the consequences that the affected people had to face due to the social changes evoked by the developments of infrastructure in their area. Semi-structured interviews were conducted with people who have been affected by the developments of infrastructure in Palmridge. I struggled to get access to the development agent and the information in this report was from the community members themselves as well as officials from the Ekurhuleni Municipality Customer Care Centre Siluma office.

5.3 Summary of the findings

The study revealed that the Motheo infrastructure development project had both positive and negative impacts on the livelihoods of the affected households. It had a positive impact in that households have been allocated stands with secured tenure, water, electricity, refuse removal and houses will also form part of the benefits. Households are grateful for these changes and are looking forward to more developments in their area. On the other hand, the development of infrastructure negatively impacted on the households in that they lost some of their economic activities, social networks, access to natural resources and access to resources. The households lost income, as the area that they are resettled in
does not support some of the activities that they used to depend on in the older area such as illegal connections and renting out of electricity. Furthermore, the area is far from resources and people have to spend more money and time on transport and walk long distances to access resources such as malls, schools, clinics and police stations. Additionally, households have lost access to natural resources as in the older area they had gardens which were crucial as a means of food security and a veld was closer where they collected wood for fire. Finally, they lost their support networks due to the distance between them and their former neighbours and have no one to depend on in the new area, since all are strangers. All households reported loss of one or more of the above essential assets, which causes a drop in their living standards. Thus, the impacts on livelihoods have made the affected community members develop a negative view on the infrastructure developments in their area.

There are a number of factors that contributed to the negative impacts on the livelihoods of the affected community members. The municipality, the community leaders and the development agent unfortunately contributed in worsening the impacts of the infrastructure developments in the following ways:

- A top down approach was used during public participation instead of participatory approaches that can empower the community to contribute on an equal level. Therefore, the public participation process did not serve its purpose as it was a platform where experts (municipality officials, community leaders and the development agent) passed information to the community as recipients and they were not equally involved in making decisions in matters that will affect them;
- Moving people to the resettlement area where developments are not complete, no electricity connection for all households, houses not yet built, tap water connection not available for all stands;
- Not ensuring that people have easy access to essential resources such as schools, transport etc.;
- Not ensuring that the mobile clinic that comes to the new area is able to help all community members; and
- Paying more attention on delivering services to the community that is seen as lacking and less focus on support of livelihoods for the affected households.

Referring to the above points it is clear that above the delivery of infrastructure to the community the municipality officials, the development agent as well as the leaders did not implement measures to enhance the ways in which people in Palmridge survive. Their concern was mostly service delivery and not livelihood support.
Although there are policies in place that state that the developments on environments should not harm communities, these policies also acknowledge that, in an event where disruptions cannot be avoided, there should be plans in place on how to mitigate the impacts. Moreover, the policies recognise that impacts that are projected may not necessarily turn out to be the only impacts during construction and after project implementation, thus impacts must be monitored throughout the life cycle of a project.

However, this did not happen in Palmridge. In the case of Palmridge, apart from job creation for a selected few, the development authorities did not make any effort to improve the livelihoods of the affected households. In addition, the community was viewed as beneficiaries of services and not as important stakeholders who could have contributed to how the developments can be improved to suit their needs. Ideally, the development authorities could have fostered a participatory partnership where all parties are allowed an opportunity to influence decisions as this could have helped in ensuring that the community is not introduced to a different kind of poverty and struggle, while the desired goal was to develop the community.

Irrespective of a number of benefits public participation has, it is often taken for granted and viewed as a waste of time by development authorities. What emerged strongly during the research is that the community of Palmridge was called to meetings only to be informed on the planned development, but not to give them a platform for more influence and control. Participatory engagements with communities are vital as they can empower communities through allowing them an opportunity to affect the outcome of proposed interventions. Furthermore, Chess and Purcell (1999:2685) add that risk management decisions made in collaboration with stakeholders are more effective and durable. Moreover, affected communities are able to support and share control over development initiatives thereby minimising conflicts between the development authorities and the affected people.

5.4 Value of livelihoods

The impact that infrastructure developments have on livelihoods is often undermined as it is not tangible. The impact is significant, since households become vulnerable if interventions do not support their livelihoods and they become unable to effectively respond and adjust to changes that they experience. What emerged during the research is that, although people got serviced stands and were promised brick houses and better infrastructure which would contribute to their livelihoods, mostly their concern is their means of survival that have been negatively affected. The friends and families whom they have lost contact with, the limited access to physical and natural resources and the inability to use their skills as the area does not support some of the activities that previously used to help them to survive continue to affect them. The loss of some of the ways that support their livelihoods has resulted in the inability to respond effectively to change. Livelihoods include
capabilities, assets and activities that are required for people to meet their basic needs and support their wellbeing (Vanclay & Esteves 2011:326). Thus, livelihoods are integral for people to cope and adapt to changes that come with interventions.

Although households had no secured tenure in Phases 5 and 6, they were more comfortable as they used not to struggle to maintain themselves. This is because they were engaged to various economic activities such as small businesses, handy man duties and had many customers. Even though electricity connection was illegal, its availability contributed to their comfort and supported income generating activities. People had created social networks that they depended on for support of their livelihoods. These also included social and cultural organisations such as stokvels and burial societies, which played an important role in bringing the community together. Participants were concerned that in Phase 4 they have not been able to get assistance from their new neighbours and each day is a struggle as they suffer in silence.

It also emerged that people are very concerned about the effects that the resettlements had on their food security and access to the veld that have wood for fuel which then demand them to exhaust their savings to buy everything that they need, including the fruit and vegetables which they used to access for free in their backyards. Inaccessibility of resources was a major challenge to the extent that people have decided to stay and not collect medicines from clinics due to the unbearable distance that they have to walk, as taxis are expensive and inaccessible as well. The fact that Phase 4 does not have a taxi rank is a challenge for adults and school children and more so for the elderly and people with disabilities. Inaccessibility of transport has also disintegrated some households as they had to send away their children to stay with extended families for easy access to schools. Although there were participants that held that the resettlement was good as they got an opportunity for a fresh start and escape the bitter relationships with the older neighbours; there was consensus that the changes caused by the Motheo infrastructure development project had more negative impacts on livelihoods than the gains.

Furthermore, comparing the living standards of the affected households in the two communities, Phases 5 and 6 and Phase 4 it becomes evident that capitals that households have access to inform the effective management of change and their resilience to change. Although change of environment from a squatter camp to formal properties where households are assured ownership benefits people; the fact that most basic needed resources are not in place, people lost contact with social networks that supported their livelihoods, resources are even further away for households and the area does not support their previous livelihood activities is evident that their living standards have dropped. As a result, they are also unable to save as they need to spend money on transport, purchasing food and
material they used to get at no cost. Moreover, resettlement is a stressful event that has negative impacts for the affected people and can put their health at risk.

The study also revealed how men and women have suffered different consequences. Women have completely lost some of their income generating activities due to the development induced resettlement. Therefore, women are left with the responsibility to do all household chores, while men are at work and engaged in other activities which also decrease the status of women and their bargaining power in households.

Finally, in the face of all the challenges, the affected households have put in place strategies to deal with the changes. The SLF was helpful in ensuring that the study does not examine poverty by only conducting needs assessments but begins with the analysis of “wealth” which comprises of assets, the knowledge, skills, resourcefulness, and adaptive strategies that have enabled people to survive, often against terrible odds (Helmore & Singh 2001:3). Given the inaccessibility and high costs of taxis, people have resorted to saving more time for travelling to different destinations, while they are also in a process of negotiating with taxi associations to bring taxis closer. Those that have not been able to clear the land and start new gardens consume the dried vegetables that they took with during the resettlement. Additionally, they buy fruit and vegetables from local stores. With the veld being far away for them to collect wood, households buy paraffin and gas for cooking. Having lost some of their livelihood activities and customers, participants have explored new business ventures and travel to other areas to sell goods. Although they cannot frequently visit their older networks in Phases 5 and 6, due to the distance, they maintain contact with them through calls and various social media platforms.

5.5 Recommendations
The results of this study showed the importance of infrastructure development projects looking beyond delivery of physical structures and taking into consideration the needs of the affected communities. Reddy et al. (2014:39) suggest that infrastructure development projects that are associated with service delivery must integrate environmental impacts and their related externalities and stop valuing only positive environmental impacts. Their argument is that looking only at the positives results in an inadequate reporting of project impacts and thus, impacts that are not measurable are ignored while they hold great meaning for the survival of the affected communities. Municipalities and the development agents must involve communities as integral stakeholders not only as recipients of services and empower them to be able to provide input in development planning and influence decisions on matters that affect them.
Social Impact Assessments can do a lot more than predicting impacts in advance in a regulatory context. Infrastructure development projects should use SIA as an ongoing monitoring and management tool throughout the life cycle of a development process that can help to address the predicted and the unpredicted impacts as they have the potential to harm the affected communities. Lack of ongoing monitoring of project impacts in Palmridge resulted in undesired outcomes. This can be avoided by ensuring that follow-up studies are conducted that will have the ability to give an adequate representation of project impacts, manage social aspects of developments and also contribute towards social sustainability.

Infrastructure development project should benefit the local community. As noted in the study, there were temporary jobs created by the Motheo infrastructure development project for the local people, however the jobs benefited a few households and thus the impact is minimal with regard to local economic development. The development project could have also considered enhancing opportunities for locally-based businesses by procuring goods and services from them. This would have a greater impact as giving them business opportunities allows for benefits to flow into the community and alleviate poverty for a large number of people at once, as the employees in local businesses usually come from the same community.

Seeing that people lost their small farms and gardens and these people are mostly the unemployed, elderly and people with disabilities, the municipality and the development agent could have considered giving temporal food relief. Particularly to the people that had farms, as not only were they able to feed their households they were also generating income from their produce. This would entail supplying them with food for an agreed upon period to allow them an opportunity to establish other ways to sustain their livelihoods.

Future research on the social impacts of infrastructure development on livelihoods may consider looking at different members of a household as they can report different experiences from those that were shared by the heads of households.

5.6 Conclusion

This study reveals how the process of infrastructure development has undermined the sustainability of the assets that help the household to survive, which is often done especially in interventions that are aimed at service delivery. Livelihood assets of affected people cannot be overlooked during interventions, since they are crucial to community survival and prosperity.
This study identifies a number of gaps on how developments that are intended to benefit people could also result in unintended damage if monitoring of impacts is not done continuously. It also reveals the need to advocate for SIA to go beyond being implemented for compliance, but to be used as a monitoring tool throughout the lifecycle of a project to ensure that no impacts are ignored in the process of development. Furthermore, the study revealed that public participation is integral and should be done in good faith. The affected communities should be seen as important stakeholders that have the capability to contribute in decision-making, not as mere recipients of goods and services.
REFERENCES


Appendix A: Interview Guides

INTERVIEW GUIDE

Date of Interview______________  Participant name (Pseudonym) ___________

Biographical information
Age____________
Sex____________
Number of years in the area________________
Employment Status_________________
Number of people in the household____________

Individual perceptions of the social changes that the infrastructure development project brought
1. Were you consulted about the Motheo infrastructure development project and what to expect?
2. What is your opinion with regard to community involvement in the planning processes of the infrastructure development project?
3. What are your concerns regarding the Motheo infrastructure development project?
4. How do you think the infrastructure developments affected the culture of the community?
5. What economic opportunities do you think the infrastructure development project opened? and for who?
6. How do you think the development processes have affected you and your livelihood?
7. Given the changes, how do you feel about your area now?

Exploring the households’ livelihood resources before the infrastructure developments
8. How accessible were resources to you e.g taxis, clinics and schools, before the infrastructure developments?
9. How did you benefit from these resources?
10. What are the types of natural resources that were available to you?
11. How productive were those resources?
12. How did you earn a living before?
13. What social networks did you have?
14. Were you part of any network group? If yes, name them
15. How did you benefit from those groups?

Exploring the livelihood strategies employed by the households to respond to the changes
16. Have you experienced any change on access to resources and facilities?
17. How are you dealing with these changes?
18. Are you experiencing any conflict with regard to access to natural resources?
19. How are you dealing with the conflict?
20. What are you doing for a living now?
21. How do you compare your former and current living standards?
22. Given the changes in your area, what type of skills do you think are important for survival?
23. How is your current relationship with your neighbours?
24. In times of hardship, where do you get livelihood support?
25. What kind of support (if any) do you get?
Appendix B: Consent to Participate in Research

Dear Participant

My name is Nomsa Ubisi. I am a Masters’ student in Social Impact Assessment in the Department of Sociology at the University of Johannesburg. The purpose of the study is to assess the social impacts of the Motheo infrastructure development project on the livelihoods of the community of Palmridge Extension 9 Phases 5 and 6 in Gauteng, South Africa. Should you need clarity or confirmation you can contact my supervisors Prof Batisai (keziab@uj.ac.za) or Miss Smuts (lsmuts@uj.ac.za)

You are requested to voluntary participate in this research study. As a community member of Palmridge Ext 9 Phases 5 and 6 I would like you to share with me your experiences. There are no anticipated risks linked with participating in the research study, but should you happen to need counselling services after the interview you can contact the Khanya family centre on 011 905 0915, Stand 824 Ramakonopi West where professional counselling services will be offered to you free of charge. No personal information will be asked in this interview. Any information that is attained which can be identified with you will be kept confidential. Once we start with the formal interview you are not obliged to continue with the interview, and you are free to terminate the session anytime without any costs. You may also refrain from answering any questions you do not want to answer and continue participating. The Interview will take approximately 45 minutes. I would like to record the interview to ensure that all the information you share is correctly captured in preparation for the verbatim transcription and data analysis processes. Recorded information will be safely kept in a locked cabinet and pseudonyms will be used to protect the identity of all participants. Only I will have access to the information and all information will be destroyed on completion of research.

I………………………………………………………… (The name of participant) hereby give consent to voluntary participate in this research study.

The signature of the research participant: _______________ Date: ______________
Appendix C: Profile of Participants

<table>
<thead>
<tr>
<th>Name of Participant</th>
<th>Age</th>
<th>Sex</th>
<th>Number of Years in the Area</th>
<th>Employment Status</th>
<th>Number of People in the Household</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participant A</td>
<td>42</td>
<td>Female</td>
<td>5</td>
<td>Self- employed</td>
<td>8</td>
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<tr>
<td>Participant B</td>
<td>80</td>
<td>Female</td>
<td>18</td>
<td>Pensioner</td>
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<td><strong>Date of interview: 01 May 2018</strong></td>
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<tr>
<td>Participant C</td>
<td>19</td>
<td>Female</td>
<td>7</td>
<td>Self - employed</td>
<td>5</td>
</tr>
<tr>
<td>Participant D</td>
<td>40</td>
<td>Female</td>
<td>16</td>
<td>Unemployed</td>
<td>6</td>
</tr>
<tr>
<td>Participant E</td>
<td>58</td>
<td>Female</td>
<td>7</td>
<td>Unemployed</td>
<td>3</td>
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<td><strong>Date of interview: 05 May 2018</strong></td>
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<td>Participant F</td>
<td>68</td>
<td>Male</td>
<td>10</td>
<td>Pensioner and entrepreneur</td>
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<tr>
<td>Participant G</td>
<td>66</td>
<td>Male</td>
<td>15</td>
<td>Pensioner</td>
<td>2</td>
</tr>
<tr>
<td>Participant H</td>
<td>42</td>
<td>Male</td>
<td>8</td>
<td>Employed-part time</td>
<td>4</td>
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<tr>
<td><strong>Date of interview: 11 May 2018</strong></td>
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