

University of KwaZulu-Natal



**PUBLIC INFRASTRUCTURE: AN ASSESSMENT OF THE
DEVELOPMENTAL IMPACT OF ROAD INFRASTRUCTURE
A CASE STUDY OF THE MZINYATHI ACCESS ROAD IN THE
DURBAN MUNICIPAL REGION.**

**Submitted in partial fulfilment of the requirements for the degree of
Masters of Development Studies, Faculty of Humanities, Development
and Social Sciences**

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i. ABSTRACT

The purpose of this study is to assess the developmental impact of the Mzinyathi access road in Durban (eThekweni) and to establish whether the construction of the road contributes to the poverty alleviation or not.

The study begins by focusing on a review of literature on road infrastructure. Of importance is that the literature review provides a foundation for the study through the assessment of the existing literature on road infrastructure. Further, research gaps are presented allowing to this and other future researches to make new contributions to the existing literatures.

Fifteen households were surveyed, a number of interviews were organised and two focus groups were organised. The information from all utilised techniques were analysed through the thematic approach.

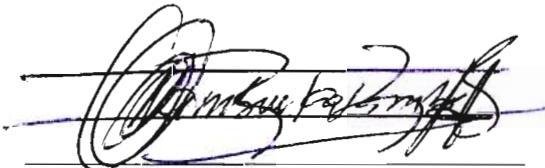
The results of the study indicate that the construction of the Mzinyathi access road has contributed significantly towards poverty alleviation in Mzinyathi area.

The conclusion and recommendations drawn from the findings reveal that there is a crucial need for moving away from the former conception or way of thinking that the public works specifically the roads have to be constructed only for job purposes. The road is able to address many more developmental issues than job opportunities.

ii. DECLARATION

Submitted in fulfilment /partial fulfilment of the requirements for the degree of Masters, in graduate programme in Development Studies, University of KwaZulu-Natal, Durban South Africa

I declare that this dissertation is my own unaided work. All citations, references and borrowed ideas have been duly acknowledged. It is being submitted for the degree of Masters in the Faculty of Humanities, Development and Social Science, University of KwaZulu-Natal, Durban South Africa, None of the present work has been submitted previously for any degree or examination in any other university.

A handwritten signature in black ink, appearing to read 'Katambwe Ntambwe Leon', is written over a horizontal line. The signature is stylized and cursive.

Katambwe Ntambwe Leon

26 September 2008

iii. IN MEMORIUM

This dissertation is dedicated to my late mother Marie Therese Mbombo wa Kabamba who left us just before its submission and did not benefit from it. May the Mighty God welcome her in His Kingdom.

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The production and research of this dissertation would have not been possible without the enormous support and assistance from the following:

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vi. LIST OF ABBREVIATIONS

CONCEPT	MEANING
ARV	Anti Retro Viral
BBE	Black Business Enterprise
CMIP	Consolidate Municipal Infrastructure Programme
DPBE	Disabled Persons Business Enterprise
DRC	Democratic republic of Congo
DTI	Department of Trade and Industry
GDP	Gross Domestic Product
HDI	Historically Disadvantaged Individuals
IDP	Integrated Development Planning
KZN	KwaZulu- Natal
LED	Local Economic Development
NGOs	Non Governmental Organisations
PBE	Priority Business Enterprise
PI	Public Infrastructure
PPG	Priority Population Group
SMMEs	Small, Medium, and Micro Enterprises
WBE	Women Business Enterprise
WHO	World Health Organisation

CHAPTER 1: INTRODUCTION

1.1 Preamble

This introductory chapter describes and gives the general view of the entire research. Here the research problem as well as the theoretical framework will be highlighted. The significance, purpose and motivation of the study will also be provided to give to the reader the real sense of the analysis. The delimitation of the study and the issues to be investigated will conclude the chapter.

1.2 Background

The study analyses the impact of the Mzinyathi access road on the development of Durban (now known as eThekweni). Durban is a municipal region within KwaZulu-Natal (KZN) province. KZN is one province in South Africa, which is facing a number of development challenges linked to poverty in many communities, especially rural communities. The KZN Economic Review (2005:82), show that the population of KZN suffers from a general lack of economic opportunities. The workers live in isolated rural areas and are faced with high transport costs. There is a high level of poverty and unemployment (42 per cent) while illiteracy is estimated to be 22 per cent. Life expectancy in this province is 45 years (specifically because of the widespread of HIV/AIDS pandemic with an estimated 1,52 million people living with HIV/AIDS in KZN). In addition, there is a high level of dependency on state grants and welfare services.

In eThekweni, the Integrated Development Plan Review (2005:11) shows that various manifestations of poverty are observed in this municipality. These include limited access to basic needs and services such as clean water, shelter, health and sanitation, and clothing.

If one looks at the quality of life of the city of Durban's population, the following factors are evident:

- 42% of people in Durban are unemployed,
- 70% still believe in gender inequality,
- 65% have been a victim of crime,
- 33% have limited access the health care,
- 20% of household lives in informal settlements, and in total
- 43% of household live in extreme poverty (The quality of life of Durban's people, 2005:15).

In addition, the high prevalence of HIV/AIDS, which increased from 40% in 2003 to 56% in 2005, has tremendously worsened the plight of many throughout the region (The Quality of life of Durban's people, 2005:45).

1.3 Motivation

The need for this dissertation has been motivated by the similar challenges that I discovered in certain African countries visited over the years, including South Africa. Countries such as Angola, Zambia, Mozambique, Zimbabwe, the Democratic Republic of Congo, face challenges that are related to their poor public infrastructure like roads. Comparing life in an area where road infrastructure is in a good condition to that where there is a poor road infrastructure, I discovered firstly that some of people's basic needs such as education, transport services, and clothing are accessed more easily where road infrastructure is in good conditions than where it is not. Secondly the people's livelihood is able to improve rapidly and poverty alleviation is possible where roads are good compared to where they are not.

People in rural as well as in peri-urban areas in Africa in general and in Durban in particular, face challenges that include the lack of access to many sorts of basic needs, which can be sometimes reduced through the provision of public infrastructure. Many

authors have analysed and linked road infrastructure to the transport sector, the country's assets and economic growth and integration, training and labour issues, soil protection, tourism, and human peace. But there are still some gaps that need to be addressed including the link between road infrastructure and access to basic needs.

1.4 Purpose of the Research

A number of road infrastructure researchers and practitioners such as Zhang and Xiaolong (2002), McCord (2002) and Porter (2005), highlight the fact that road construction has the potential to make a significant positive impact on the socio-economic problems of people. Therefore it is in the same vein that the present study explores the influence that the construction of the Mzinyathi road may have on socio-economic outcomes in Durban. The study will also capture not only the benefits of Mzinyathi access road but some of its potential negative consequences as well. In other words, when alleviating the spatial differentiation throughout the construction of Mzinyathi, an over-riding consideration should be that of responsible development. This means that development should not negatively affect the environment as well as the culture or the way of life of the rural people. For instance, sometimes once a new road is constructed, life in rural communities starts to shift from traditional to urban model, consequently undermining rural linkages in those areas.

Therefore the purpose of this analysis is to investigate the socio-economic aspects of the Mzinyathi access road with regard to poverty alleviation using the Sen's framework of 'Development as Freedom'. To be specific, the study explores the linkages between the construction of Mzinyathi access road with the following factors, which are considered to be key to alleviating poverty:

1. People's access to basic needs such as water, electricity, clothing, transport services, accommodation or shelter, as well as education;
2. Gender and HIV/AIDS issues;
3. Skills development and job creation.

1.5 Significance of the Study

The World Development Report (1994:15) states that public infrastructure such as roads represent if not the engine, then the wheels of development of any country. Transportation plays a multifaceted role in the pursuit of development objectives contributing to economic growth and to raising the quality of life. Rural areas with low standards of living are characteristically those with inadequate methods of moving people and goods, probably because of deficient access between villages and markets, schools, medical, economic, administrative and social services which affect the day to day lives of rural people. Transportation is an essential ingredient of almost everything man does to supply himself with the necessities of life. Road transport is particularly important for developing countries, where it provides about 80 to 90 percent of the total inland and/or border crossing transport of people and goods. An effective road network can hasten progress in agricultural and rural development, industry and trade, the viability of urban areas and the expansion of jobs, education and personal opportunity. Restriction of road accessibility limits efficient factor mobility and defers the transfer of human and material resources to places where they can be employed most productively. Hence the role played by road infrastructure in the development of an area is an important issue.

This analysis and assessment of the Mzinyathi access road is therefore significant to the development of any developing country in general and the eThekweni municipality in particular, given that it will demonstrate the role that road infrastructure plays in the economic growth and the upliftment of the quality of life of the local community.

1.6 The issues to be investigated

Given the shortage of information on linkages between road infrastructure and certain socio-economic aspects of life and considering Sen's conceptualisation of development as freedom, this explorative analysis hunts for a deep understanding of those linkages. The research questions to be addressed include the following two main questions accompanied by three sub-questions:

Main Questions:

1. How has the construction of the Mzinyathi access road changed people's livelihoods in Inanda?
2. What tangible evidence illustrates the improvement of the livelihoods of people?

Sub-Questions:

With regard to poverty alleviation in Durban:

1. Is the access to basic needs such as water, sanitation, education (skills development), transport services, etc made easier by Mzinyathi road construction?
2. Have households secured more jobs and higher and more stable incomes than they had before the road was constructed?
3. Were the gender and HIV/AIDS issues addressed by Mzinyathi access road?

1.7 Theoretical Framework

In this study, I find the theory of Development as Freedom presented by Sen (2001) to be relevant. As freedom, development means a "process of expanding the real choices that people enjoy; it is the removal of all deprivations among people and the promotion of free choices" (Sen, 2001: 36).

It should be noted that a country can experience peace in terms of being a war-free zone but its people may still not be liberated. Many African countries believed that the access to the independence in the 1960s meant a total freedom for people but in reality it was observed that total freedom did not take place. In South Africa, people thought that the end of the Apartheid regime in 1994 meant a total freedom, which did not take place until today. The significant remark is that what people can positively achieve in their lives or societies is influenced by a combination of economic opportunities, political liberties, social powers, and the enabling conditions of good health, basic education, and the

encouragement and cultivation of initiatives (Sen, 2001: 5). Therefore, life will be better and people can live the way they would like to live if the instrumental freedoms are met (Sen, 2001: 38). Sen presented a large number of instrumental freedoms, which are not all relevant to the current study. Therefore the study relevant instrumental freedoms include the following:

1. Political freedom,
2. Economical facilities and
3. Social opportunities.

Political freedoms including civil rights refer to the opportunities that people have to determine who should govern and on what principles, and also include the possibility to scrutinise and criticise authorities. Freedom of political expression and an uncensored press to enjoy the freedom to choose between different political parties, are also included (Sen, 2001: 38). These freedoms can be expressed during the popular referendum or election process.

-Relevance of political freedoms to the road infrastructure

As it will be presented in the following chapter (literature review), the road infrastructure alleviate poverty of majority of poor citizen through the job creation. In many cases providing road infrastructure remains a government related task. Therefore if citizens do not have a freedom to criticise and to be heard by authorities who are not providing jobs (through different means including road infrastructure), the outcome will be violence, crime, perpetual marches and even xenophobia against foreigners as experienced in South Africa in May 2008.

Further, prior to the construction of any road or infrastructure of public interest, studies of feasibility, option surveys and consultative workshops with the beneficiary population are to be conducted. If so, this is a proof of the relevance of the political freedom that people living in the Mzinyathi area have or had on the road construction.

Economic facilities refer to “the opportunities that individuals respectively enjoy to realise economic resources for the purpose of consumption, production, or exchange” (Sen, 2001: 39).

-Relevance of economic facilities to the road infrastructure

Road construction generates jobs and attracts local as well as international investments that may then also lead to job creation. With the transfer of wages through the employment created, people have access to the resources needed. This leads to freedom of choices and a longer life expectancy.

Road construction in the case of Mzinyathi might have a great positive impact on the life of the local and non local population as it might have expanded their scope of economic choices pertaining to their daily life and better future prospect (Investment). E.g. people choosing to buy a car because there is a good road that has no hindrances on the vehicle life span; easy and fast public transportation conducive to children freedom to access to better schooling not available in Mzinyati, freedom of choice engendered by better road infrastructure that enhance people capabilities to find employment away from home.

Poor communities are isolated for significant portions of the year as they lack reliable all-season road access. The majority of journeys are short, numerous and time consuming. They typically occur for production or subsistence needs, such as collecting water and fuel, crop production, harvesting and processing. All these are the economic opportunities which are missed because of lack of road infrastructure.

Social opportunities refer to the arrangements that society makes for education, healthcare and social assistance, all of which influence the individual’s substantive freedom to live better. Social opportunities are significant not only for the conduct of private lives (such as living a healthy life and avoiding preventable morbidity and premature mortality), but also for more effective participation in the economic and

political activities of the society (Sen, 2001: 39). The case of AIDS affected people illustrates this theory. These ill and weak people are sometimes not able to earn an income or perform any economic activity. The disease stigmatises and prevents them from accessing some of the healthcare and welfare opportunities that they might be eligible for (Steinberg, 2000: 307).

-Relevance of social opportunities to the road infrastructure

The road infrastructure constructions in South Africa have introduced training and education systems within the programmes as a means of economic empowerment and dependency reduction so that workers can gain skills while they work, and increase their capacity to earn a future income (McCord 2003:3).

Further, longer journeys are infrequent even though they may well be essential to livelihood strategies. Such journeys include visits to hospitals and clinics, marketing of produce, or searching for jobs. Poor road infrastructure restricts the freedom of choice to sick people as they spend more time and money to travel to access health facilities not available in their nearby localities. Nzinyati road construction has for sure enhanced people to access these facilities among other and to improve their quality of life and achievement in many spheres related to quality social life and betterment.

Summing up, the above freedoms constitute the basic choices that need to be available to citizens in society to enable them to live an efficient life. However in many societies in general and in Inanda in particular, several factors exist that reduce or deny elementary freedoms to the vast majority of people. These factors include poor economic opportunities as well as systematic social deprivation and illiteracy (Sen, 2001: 3).

Illiteracy is a major barrier which prevents full participation in economic activities that require production according to specification or demand strict quality control (Sen, 2001: 39).

Adding to this is the economic poverty which according to Sen needs to be seen as the deprivation of basic capabilities rather than merely as lowness of income (Sen, 2001:87). Economic poverty factor robs people of the freedom to satisfy hunger, to achieve sufficient nutrition, to obtain remedies for treatable illnesses, the opportunity to be adequately clothed or sheltered, or to enjoy clean water or sanitary services (Sen, 2001: 4).

An example of economic poverty is the unemployment. Besides the loss of income, unemployment has many complementary effects. These include psychological harm, loss of work motivation, skills and self-confidence, increase in ailments and morbidity (and even mortality rates), disruption of family relations and social life, hardening of social exclusion and accentuation of racial tensions and gender asymmetries (Sen, 2001: 94). Another casualty of unemployment is that of the poor AIDS affected people because these people do not have the same access to Anti Retro Viral (ARV) treatment as do the wealthy ones. Hence the result is that they experience premature death more than patients from other groups.

To sum up, people living in war-free zone are not yet free unless they overcome threats such as poor economic opportunities as well as systematic social deprivation, the economic poverty, negligence of public facilities and social care and the like. Development would appear to be one way that can release or free people from these oppressions. Development as freedom can be realised by freedom agencies such as the State (through the construction of road infrastructure for instance), political and social organisations (through democracy), community-based arrangement, Non-governmental agencies of various kinds, the media and other means of public understanding and communication or any other institution that allows the functioning of markets and contractual relations (Sen, 2001: 284).

1.8 Ethical Consideration

To protect the privacy of people interviewed as well as households surveyed, numbers have been allocated to them. Further to ensure the privacy of all other persons involved in the research, especially in terms of the level of benefits, wages and satisfaction that the Mzinyathi access road has brought in their livelihoods, their names have been omitted in the Report. Also all people involved in interview, survey, and questionnaire were informed about the confidentiality of their details being involved in this research.

1.9 Validity of the Study and Organisation of the thesis

A number of problems were overcome to ensure the validity of the data collected and the findings. The household survey and focus groups (will be detailed in the third chapter) were conducted in deep rural areas where the majority of people do not speak English. Therefore, the need for English-Zulu translators and interpreters was another challenge. Finally, financial issue needs to be taken into consideration, since interviews, surveys as well as focus groups were conducted out of Durban. Transport, refreshment and accommodation costs were also incurred. However, given the importance of the study, the passion I have about it, as well as the support I got from the School of Development Studies as whole, I am confident of reliable results.

This study has the following six chapters:

- The first chapter provided an introduction for the study, outlining the research problem, the theoretical framework, the delimitation of the study and the issues to be investigated. The organisation of the rest of the thesis is as follows.
- The second chapter gathers, analyses and reviews literature related to road infrastructure and development in and outside South Africa
- The third chapter deals with the methodology and techniques used to collect information.
- The fourth chapter details the Mzinyathi access road (location, length, etc).

- The fifth chapter and the last outlines the findings of the study and discussions around them. The preliminary findings show that Mzinyathi road is the primary feeder road into the whole area to north of the Inanda Dam. It directly serves the Imbozamo, Mgangeni and Matabetule tribal areas with the total estimated population of 50,000. The road is a bus and taxi route to Durban feeding from the tribal areas of greater Inanda into Phoenix, Springfield and greater Durban, all of prime importance for commuters and job seekers. The nearest medical centres and main stores are at Phoenix and Verulam hence this road is important for emergency vehicles and is a supply route for many stores in the area.
- The report will end with a general conclusion and policy recommendations for future research. Appendices will include the road maps, interview questions, focus group questions, and the household survey's questions.

CHAPTER 2: LITERATURE REVIEW

Introduction and Scope of Chapter

This chapter reviews literature related to road infrastructure and development. Several aspects of life such as poverty and unemployment that road infrastructure can alleviate in the rural, as well as urban communities will be presented here. The chapter comprises of two major sections: the first presents the assessment of all road infrastructures' literature searched and the second highlights the research gaps that still need to be addressed on the same topic.

Section 1 Road Infrastructure's Analysis

Much research has been done on the role of road infrastructure on development. The review of literature shows that road infrastructure has achieved several developmental goals depending on the context of each country, region and/or continent. Those road goals contribute to creating opportunity, facilitating empowerment, and enhancing security for poor people.

- **Opportunity:** better access to markets creates economic opportunities for poor people to sell their labour and products. Better transport infrastructure and services facilitate access to schools and health clinics.

- **Empowerment:** the presence of roads can empower the poor by facilitating their access to information and their political and social participation, by making it easier to hold public consultations in poor communities and making it possible for constituents to get to meeting places and town centers. Better access to government officials may serve the same objective. If roads are designed and implemented with local community involvement, the process may strengthen community capacity overall.

- Security: a reliable road system can enhance security by making it possible to respond better to economic and natural shocks. At the micro level access to transport facilitates job search and can contribute to easier diversification of income, thus reducing vulnerability of households to external shocks. Roads can also improve access to health care facilities, thus making it easier to respond to medical emergencies (Grootaert, 2002:9).

Grouping the three preceding key aspects of road, a number of detailed themes emerged as basic foundations covered by the researches in this field including the following:

- Creation and maintenance of country's assets,
- Economic growth,
- Economic integration,
- Attraction of tourists,
- Soil protection,
- Job creation,
- Education and training and
- Human peace and stability.

1.1 Assets of the Country

In many developing countries the road infrastructure programmes respond to the existing demand for asset creation and maintenance and consequently are different from simple welfare initiatives. In other words, roads are not always constructed to create employment or to assist citizens in any specific areas but they are implemented to make a country more attractive and beautiful or just to equip a country with assets. McCord (2002:26) argued that asset creation in the developing world is significant because the distribution of infrastructure under a previous dispensation and the political commitment of widespread asset provision (in countries like South Africa) were based on inequitable rules of the previous political regime. Mutume (2002:24) pointed out that in many

African countries where fewer roads are found, these are concentrated in urban areas or around coastal ports. In fact, those trade routes were mainly established during colonial times for the overseas shipment of commodities. Mbwana (1997:1) added “during colonial times, the motive for construction of any kind of transport infrastructure was to move merchandise from the hinterland to the coastal ports of these colonies and therefore different standards were used in different African countries”. Consequently, pedestrian walkways and the bicycle trips constitute to a large extent the major way of trips in Africa (Mbwana, 1997:4).

The main question therefore remains to understand the consequence of not having sufficient road infrastructure. In short, the lack of road infrastructure leads to many negative developmental factors among which the high rate of road death and the discouragement of international investments. Riverson et al. (1993:3) presented the case of Sub-Saharan Africa: “This part of Africa has approximately 700,000 kilometres of rural roads, with more than half of them in poor condition. Hence this factor combined with others such as low population densities, low levels of income, weak road planning, design, and maintenance capabilities make Sub-Saharan Africa altogether under-equipped and overburdened in terms of rural road infrastructure”. Mutume (2002: 23) further argued “the cost of transporting goods in Africa is among the highest in the world and African goods are less competitive with those from other regions just because of poor road infrastructure”.

Poor roads combined with aged vehicles are the major factors that cost lives in the developing world. According to the Global Road Safety Partnership, a worldwide road safety organisation quoted in Mutume (2002: 25), “in a sample of African countries, 339 deaths per 10,000 vehicles were reported in 1996. In comparison, the average death rate in the world's 10 most highly motorized countries was 2.3 per 10,000 motor vehicles that year”.

In countries like the Democratic Republic of Congo (DRC) and Angola for instance, many international investors are reluctant to invest mainly because of the lack of efficient

public infrastructures such as road, water and the like. Road infrastructure needs to be considered as part of the state's assets that need to be implemented for the benefit of both national as well as regional users towards developmental goals.

Observation

In this block of researchers, apart from Mutume who used a comparison method to weigh the number of death to the state of the road in some counties, the rest of authors used descriptive methods to present the various causes that led to the construction of the current roads. The limit to this descriptive method is that apart from describing the roads, these authors so far have not deeply analysed and presented other related negative consequences of not having road assets in a country.

1.2 Poverty Alleviation and Economic Growth

The road infrastructure has a high potential payoff in terms of poverty alleviation and economic growth. "Some cross-national studies of economic growth and PI notably one using public investment in transport and communications, and other using capital stocks in roads, railways and telephones, show that infrastructure's variables are positively and significantly correlated with growth in developing countries" (World Development Report, 1994:15). Then again, "in the middle income countries data for 1990 indicate that, while total infrastructure stocks increase by one percent with each percent increment in per capita GDP, household access to safe water increases by 0.3 percent, power increases by 1.5 percent and telecommunication by 1.7 percent" (World Development Report, 1994:15).

There are direct and indirect links between economic growth and the reduction of various social ills, and the road provision. The direct effects are registered in the impact zone by reduced travel time to school, work, hospitals, and markets, and the savings in fuel and other direct transport costs (Porter, 2005:3). On the other hand the indirect effects consist of increases in income and other dimensions of well being such as health, education,

social interaction and political participation (Porter, 2005:3). The benefits of roads include the access they provide to other goods and services especially in cities, where the poor are concentrated on the periphery of urban areas, as in many developing countries. The costs and availability of public transport become key factors to the poor in their ability to obtain employment. For instance, “a household survey in Ecuador identified the access to secure and reliable public transport as an influential factor in determining the ability of low-income girls and women to participate in evening training classes” (World Development Report, 1994:20). The construction and maintenance of roads and waterworks can contribute to poverty alleviation by providing direct employment. Civil works programmes carried out in Botswana, Cape Verde, and India, which often involve the provision of infrastructure, have also been important in strengthening famine prevention and providing income. Women, as principal producers and marketers of food in the majority of African countries benefit from the improved access to markets which rural roads bring (World Development Report, 1994:85). Therefore improving road infrastructure is an essential requirement for the modernisation and the growth of the agricultural sector. Better market incentives to farmers will be blunted if the physical barriers and economic costs of transporting goods to and from local markets are too high (Riverson et al., 1993:1). In China, for example the investment in road infrastructure was directly linked to rural poverty reduction as well as to the economic growth of that country.

From 1985 to 2002, national gross domestic product (GDP) grew by more than 9 percent per year, making China’s economy one of the most dynamic in the world. Zhang et al. (2002:2) argued that the absolute poverty in rural China (based on the official poverty line of \$0.66 per capita per day) has declined from 250 million people in 1978 to 29 million in 2001. A reduction in poverty of this scale and within such a short time is unprecedented in history and is seen by many to be one of the greatest achievements in human development in the 20th century (Zhang et al., 2002: 3).

In Botswana, the pilot projects of road construction and maintenance generate a great number of employment opportunities but at a lower wage rate to the poor people. During the construction, the gender gap was almost totally decreased because the programmes

gave privileges and employed all available women, believed to be poorer, before opening the door to men (McCutcheon, 1991), (Grootaert, 2002:15).

Kirsten (2006:22) pointed out that infrastructure encompasses more than just economic growth and diversification. One measure of its empowering effect is its contribution to reducing poverty. The vulnerability of poor people can be countered by redressing low-income levels, hazardous conditions, social powerlessness and isolation, which infrastructure has a considerable potential role to play. For example improved transport provides access to markets, employment opportunities, social and medical services, and education opportunities. Importantly Kirsten (2006:22) added that to reduce poverty, public infrastructure must reach poor people with the right mix of services involving them in a way that ensures sustained improvement in their quality of life and contributes to their own economic empowerment.

The World Bank Report on infrastructure (2006:33) is more focused on reaching the poor as a means of dealing with countries' growth. In fact, the Bank has criticised itself by highlighting the fact that in the early decades of its activities, it predominantly focused its investments on large-scale infrastructure managed by central government agencies or state enterprises and aimed at facilitating economic growth. Poverty reduction was not a primary objective of the Bank. However, later on, the Bank slowly gave up its former primary objective, and its lending rapidly increased and shifted to countries where poverty (as opposed to reconstruction and economic growth) was a central issue. Therefore, the Bank gradually redefined itself as a poverty reduction institution.

In South Africa because public works projects offer temporary employments, it is believed that they do not really move the participants out of poverty but just offer them a temporary respite, reducing the depth of poverty during the period of employment. In other words, the public work programmes do not break the poverty cycle but temporary relieve poverty by enabling household consumption smoothing and diminishing the size of the poverty gap (McCord, 2002:26). To defeat this belief, road construction through Zibambele programmes has generated 10000 permanent jobs at an average cost of R

5042 per annum assuring people of a permanent consumption smoothing (McCord, 2003:43).

The commission for Africa's report, the document which served as the basis for the UK's recent attempt to include Africa on the agenda of the G8 and European Union, proposed a big push on many fronts at once to enhance African economic growth. Road infrastructure, particularly in the rural areas is seen in this report as a key component for encouraging economic growth and therefore poverty reduction (Porter, 2005:3).

In Tanzania, road provision led to an increase of attendance at hospitals and other preventive health facilities. In addition, it led to an increase in the participation of women in local government affairs due to the increased feasibility of one-day roundtrip travel to a meeting (Porter, 2005:4), (Grootaert, 2002:15).

In Bangladesh, villages with better access roads were found to have better agricultural production, higher household incomes, wage income of landless labour, better access to health and the participation of women in the economy (Porter, 2005:4). To some extent road infrastructure is important for ensuring that growth is consistent with poverty reduction and access to at least minimal infrastructure services is one of the essential criteria for defining welfare and reducing inequalities among people (World Development Report, 1994:20), (Calderon et al, 2004:1).

Observation

Authors in this group used comparison methods to present their findings on the road infrastructure. Some compared the improvement of the stock of road infrastructure assets to the increase of the GDP of the country. Others weighed the expansion of the road infrastructure to the level of poverty reduction including the decline in inequality. These authors made clear the understanding of the direct and indirect linkages of the road infrastructure to the economic growth of the country as well as to the upliftment of the livelihood of people.

1.3 Economic Integration

In terms of infrastructure, more integrated economies tend to grow faster than isolated ones. The development of a country or continent to a large extent depends on efficient integration of the economy both at national and regional levels. In the developing world many of the nearest or bordering countries are sometimes disconnected from each other mainly because of poor road infrastructure. In Africa for example, 15 countries are landlocked and do not have a direct access to the sea. The issue become more complicated since the continent has few roads in good condition. To link neighbouring countries in regional networks and to provide access to the sea for those landlocked countries is a real challenge in Africa said Mutume (2002:24).

To improve the economy before high-intensity modern trade can get started, Africa needs an extensive road system both from the coast to the interior and within the interior (Porter, 2005:3). Within the framework of the regional Trade Protocol, the Southern African Development Community Region (SADC) is steadily moving towards a free trade area from 2008 which remains the regional economic integration programme. But because of the poor road infrastructure within the region, SADC's development s still being held back and looks unlikely to meet the deadline (Makumbe, 2006:1). It is assumed that the road infrastructure within SADC can facilitate inter-state transport and communications networks, which implies easier movement of goods, services and people as well as other factors of production (Makumbe, 2006: 2).

Observation

These authors used a comparison method to evaluate the level of the improvement of the global economy to the state of the roads. Economic integration by road is good in theory but it should be noted that other means including railways and airways might still be utilised to remediate where roads do not exist, aspect to which authors did not pay attention.

1.4 Attraction of Tourists

The tourism industry is extremely important in the economy of developing countries. These include economic development (increased GDP), job creation and foreign exchange earnings amongst others. It is important to understand that it is difficult for the country lacking the basic infrastructures like roads to be visited by or to host the international tourists. Makumbe (2006:1) pointed out that the lack of road infrastructure in Africa has resulted in a decrease in the number of international tourists: 12 million tourist arrivals in 2005 compared to 15.1 million the previous year.

Observation

Makumbe applied a comparison method to weigh up the level of the incoming tourists in Africa to the state of the roads. But Makumbe should also look at the other side of the coin. The number of international tourists may have declined due to safety purpose as civil wars have recently broken out in some African countries and not only the state of road.

1.5 Environment and Soil Protection

The road infrastructure programmes are important because of the protection of the environment and soil against erosion and degradation. There provision of infrastructure results from the efforts of individuals and communities to modify their physical surroundings or habitat in order to improve their comfort, productivity, and protection from ailments and to conquer distance (World Development Report, 1994:20). Each sector like water, power, transport, sanitation and irrigation, raises issues concerning the interaction between man-made structure and the natural environment. In Africa there are three classes of access road systems:

- Formal road systems,
- Low cost formal road systems and

■ Informal road systems.

Formal road systems have a compacted foundation onto which is added a surface seal such as bitumen, concrete or compacted gravel. The low cost formal systems have the roadbed created by excavating a given tract of land to form a quasi-planar surface, often exposing the subsoil horizon (Beckedahl, et al., 2001: 324). The informal road systems, the most prevalent in developing world are formed by successive wheeled traffic across a given transect (Beckedahl, et al., 2001: 325). But the passage of vehicles results in the transmission of a shear stress from the ground downwards through the soil profile. The effects of these stresses are such as the compaction of surface where bulk density and soil strength increases and the natural obstructions that would act as important energy sinks. Adding to this is the rapid denudation of the vegetation through mechanical damage or dislodgement (Beckedahl, et al, 2001: 325). The soil conservation is an integral part of agriculture, production and environmental management. The insensitive or misplaced road infrastructures might lead to severe environmental degradation through soil erosion and loss, while the obvious consequences of soil erosion are the social and economic aspects like farm abandonment, rural migration and the like.

Observation

Beckedahl compared the state of the informal roads which prevails in developing countries, to the environmental degradation. The author should suggest the permutation from informal road system to the construction of the formal road systems (which is an expensive programme for the majority of developing countries). Beckedahl needs to understand that those informal road systems are still playing a role in the local economy including facilitating to farmers to move their products from farms to the markets.

1.6 Job Opportunities. (*“More and better jobs, less poverty”*)

Road infrastructures are important because they decrease the country’s unemployment rate. The impacts of unemployment on the development of the country both at macro and

micro-economic levels include the following: psychological harm, loss of work motivation, skills and self-confidence, increase in ailments and morbidity (and even mortality rates), disruption of family relations and social life, hardening of social exclusion and accentuation of racial tensions and gender asymmetries (Sen, 2001: 94). Louw and Shaw in McCord (2002:88) pointed out that the lack of income through gainful employment is the primary cause of poverty especially in South Africa. It reduces both the physical and mental health status of the people. In the same vein it increases social isolation and decreases the take up of education and health services (McCord, 2002:88).

According to the quality of life of Durban's people (2005:15), 42% of people in Durban are unemployed and have a high level of dependency on state grants and welfare services. The transfer of income or wages through employment generated by the road construction can reverse the above harmful impacts of unemployment. Beyond that, McCord (2002:85) pointed out that income from PI contributes to society by: increasing school enrolment and participation; decreasing child malnutrition and decreasing social instability. In addition, the transfer of the take-home pay increases the domestic demand and makes the local market attractive for both domestic and international investments; and thus stimulates the macroeconomic growth of the country as whole (McCord, 2002:85). Rural areas generally have limited amount of money in circulation so the injection of funds (the amount of cash in the area where the road construction take place) through wage transfer is likely able to stimulate local markets and the informal employment activities.

Observation

The authors have linked the construction of roads to the job opportunities and livelihood improvement of people. But they have not looked at the other side of the coin, and that is that the new roads in many cases bring modernisation and new life style in rural communities and impacts on tradition and culture as the life shift from rural to urban model.

1.7 Education and Training

In South Africa specifically in KZN in which province Durban is situated, people are not only illiterate but also suffer from historic restrictions on entrepreneurial development and poor support systems. Consequently, some households today have not a single-family member working and no one is likely to find work. This situation is called “unemployable” (McCord, 2003:20). To eradicate such a situation, the road infrastructure constructions have introduced training and education systems within the programmes as a means of economic empowerment and dependency reduction so that workers can gain skills while they work and increase their capacity to earn a future income (McCord 2003:3).

Observation

McCord linked the construction of roads to the people’s empowerment through training and education. But McCord did not provide the kind of education and training are provided (business, book keeping or civil engineering training?).

1.8 Human Peace, stability and Security

Traditionally the notions of peace, stability and security concentrated mainly on a state’s ability to counter external threats such as wars. Recently, the thinking about these notions has shifted. In Africa for instance such shift is traced to the internal struggles of African people against poverty, hunger, unemployment, illiteracy, ill health and other maladies.

For the United Nations Commission on Human Security, (2003:4) human security is more than just the absence of violent conflict. It encompasses human rights, good governance, access to education and healthcare, access to available employment and the opportunity and choice for each individual to fulfil his/her own potential.

In South Africa, argues McCord (2002:89), unemployment and poverty are the major causes of domestic and social conflict, political dissatisfaction and criminal activity all of which undermine social stability. Denying the poor access to educational and economic opportunities such as employment, accentuates inequality and the outcome is likely to retard overall economic growth given that in order to survive, the poor may be tempted to resort to criminal or marginalised activities (McCord, 2002:89). PI like roads are able to create decent, productive and sustainable employment for the poor thereby fighting against poverty and criminal activities, as well as political and social conflicts.

Observation

McCord linked the construction of roads to domestic and social conflicts. But McCord did not provide the figures of the rural areas where domestic and social conflicts decreased as a result of the road construction.

Synopsis

Researches have been undertaken on the road infrastructure but much of them were related to the linkages between the road and the creation and maintenance of country's assets', economic growth, economic integration, attraction of tourists, soil protection, job creation, education and training, human peace and stability. Majority of those researches analysed and explored the qualitative experience using participatory and learning approaches of the linkages between the road infrastructure and the key themes presented above. The approach adopted by most of authors is empirical in that selected variables on existing road networks are directly compared or correlated with a country's income, assets, etc.

From the comments made to each theme, it should be noted that comparisons of the eight key areas highlighted above and road infrastructure are not meant to imply that a road by itself is capable of developing a country or region, but that it is a necessary element in the development process. Further, Grootaert (2002:16) pointed out that road infrastructures

do not solely have positive effects. Inappropriately designed projects can harm residents, especially the poor. The negative impacts that have been observed in a number of countries include involuntary resettlement, increased traffic accidents, environmental effects such as deforestation and erosion, and the spread of HIV/AIDS.

Section 2. Road Infrastructure's Review

The preceding section presented the major themes that emerged from the assessment of the road infrastructure researches undertaken. This section gives the gaps or unsearched areas that has been discovered on the road infrastructure and that need to be addressed.

Apart from the key themes presented above, very little research has been undertaken on the impact that road infrastructure projects may have on social ills such as HIV/AIDS as well as on other issues such as the link between roads and food shortages, migration movements, family disruption and some areas of political sphere.

2.1 Road Infrastructure and Migration

Migration can be understood as a phenomenon that influences people to settle in another country or region (Haddock, 1997:207). The migration movement might be international from one country or continent to another; it might even be from an internal, local or rural setting to more urbanised one. But the heavy outflow of migrants both local and international has mixed economic and social repercussions in both the sending and receiving communities.

Migration often depletes an already limited skilled labour force, making the benefits of economic reform even more difficult to realise. Fiscal revenue from taxation may also decline, as migrants are more likely to be among the highest income earners (Ocampo, 2005:49).

Road construction as a labour intensive project creates a significant number of jobs. Therefore, if programmes are concentrated only in urban areas this denies the rural poor people access to job opportunities and the outcome is likely to be rural migration with the above cited consequences. On the other hand, if a developing country as a whole does not have road construction programmes to generate job opportunities, there may be international migration movements because in order to survive people may decide to move abroad.

2.2 Road Infrastructure and Food Shortage

Farms in many developing countries are concentrated in rural areas. In some situations, surplus crops are harvested and stored for years in rural area while the urban area experiences food shortage or sometimes very high prices being charged for little food. The main issue remains the link between the two areas that is poor or non-existent. For instance according to Radio Okapi, a United Nations' based radio station in the DRC

- 160,000 kg of maize deteriorated in the province of Katanga in May 2008,
- 500 tons of rice deteriorated in the Oriental Province
- 7 680 tons of corn, 480 tons of groundnut, 960 tons of pumpkin, and 336 tons of Soya are blocked in their production sites in rural areas of the Kasai province because of the bad state of the road
- A large number of tons of corn is burnt in the rural area of Mfwamba because of lack of storage as well as roads as shown in the following photo 2.1.

Photo 2.1 Corns are burnt in Mfwamba rural area (D.R. Congo)



Source: www.radiookapi.net, 2008

2.3 Road Infrastructure and Democracy

Presidential elections took place in DRC on 20th July 2006, but the publication of the results only took place a month later. The main reason for the delay in the publication of the results in that context was that many ballot papers were blocked in voting stations in the rural areas of the country where there are not good roads. So helicopters had to be sent to collect them. Consequently the outcome of elections is viewed with suspicion and uncertainty because the delay in the delivery of ballot papers could have made them vulnerable to fraud and manipulations. This situation compromises the Congolese democracy and in the worst-case scenario, could lead to the outbreak of a civil war. This sphere of democracy and its linkage to road infrastructure still need to be dealt with.

2.4 Road Infrastructure and HIV/AIDS

HIV/AIDS related diseases like TB, diarrhoea and so on are treated in hospitals and this should be accompanied by an efficient and balanced nutritional regime. Many people especially, in rural areas do not have access to good treatment or good nutritional regimes mainly because of lack of finance and other various constraints linked to poor road infrastructure. Road construction generates employments to people allowing them, through wage transfer, to have a balanced nutritional regime.

Synopsis

Research on road infrastructure have been undertaken worldwide but a number of areas have not yet being addressed and still need to be looked at. These areas include among others the impact that road infrastructure on HIV/AIDS, food shortages, migration movements, family disruption and democracy.

2.3 Conclusion

To sum up, this chapter has explored and analysed all researches undertaken on the road infrastructure. A number of findings emerged from the analysis showing various impacts and goals achieved by the construction of road infrastructure. These include the following:

- Assets creation and maintenance
- Poverty reduction and economic growth
- Economic integration
- Tourist attraction
- Environment and soil protection
- Employment
- Education and training provision
- Human peace and stability.

On the other hand, the chapter presented some unsearched areas that still need to be addressed with regard to the goals that road infrastructure might achieve. These encompass the linkages between the road infrastructure and HIV/AIDS, food shortage in urban areas, family disruption, migration and some aspects of democracy.

An important point to keep in mind is that the current study will try to deal with some of these so far not yet addressed topics in order to bring an additional contribution to the existing literatures on the road infrastructure. However, other unsearched topic that will not be addressed in this study will be considered as a framework for the future research on road infrastructure.

CHAPTER 3 METHODOLOGY

3.1 Introduction

The research aims to explore the qualitative experience of the poverty alleviation in Durban through the road construction specifically the case of Mzinyathi road. Qualitative research is a study which is conducted in a natural setting where the researcher, an instrument of data collection, gathers words or pictures, analyses them inductively, focuses on the meaning of participants, and describes a process that is both expressive and persuasive in language (Dartey, 1998:1). Neuman (2000:145) pointed out that through the qualitative approach, researchers borrow ideas from people they study or develop new ideas as they examine a specific case in its context, rather than attempting to transform aspects of the social world into variables and hypotheses.

De Vos (2001:15) argued that qualitative analysis is that in which the procedures are not strictly formalised, while the scope is more likely to be undefined and a more philosophical mode of operation is adopted. Creswell (1998:1) defines qualitative research as an inquiry process of understanding based on distinct methodological traditions of inquiry that explore a social or human problem. The researcher builds a complex, holistic picture, analyses words, reports detailed views of informants, and conducts the study in a natural setting.

The analysis of Mzinyathi road on the development of Durban is a qualitative research. The study allowed for the interaction with key stakeholders involved in the programme of the construction of the road, and also led me to analyse their views and considerations. This permitted me to build a complex and holistic detailed report on the socio-economic impact of the Mzinyathi access road.

Many projects on the construction of roads are undertaken in the province including the following: Vukuzakhe programme, African Renaissance road programme, Gundo Lashu project and Zibambele. But given that this research focuses on the Mzinyathi road, the

method that will be used to analyse it is the “case study approach”. Case study method is an approach that allows the researcher to explore a single entity or phenomenon bounded by time and activity and to collect detailed information by using a variety of data collections procedures during a sustained period of time (Cresswell, 1994:12). In other words, a case study can be seen as an exploration of a “bounded system” or a case (or multiple cases) over time through detailed, in-depth data collection involving multiple sources of information rich in context. The bounded system is delimited by time and place, and it is the case being studied – a programme, an event, an activity, or individuals (Cresswell, 1994:1).

3.2 Sampling

Sampling is the act, process, or technique of selecting a suitable sample, or a representative portion of a population for the purpose of determining parameters or characteristics of the whole population (Webster, 1985:1). A sample is a finite part of a statistical population whose properties are studied to gain information about the whole. When dealing with people, a sample can be defined as a set of respondents (people) selected from a larger population for the purpose of a survey. A population is a group of individuals, objects, or items from which samples are taken for measurement (Webster, 1985:1). The main purpose of sampling is to draw conclusions about whole populations from the sample, that is to say the use of inferential statistics enables us to determine a population’s characteristics by directly observing only a portion (or sample) of the population (Webster, 1985:1).

Any researcher needs to understand and define the source of data. This exercise includes some details about the site of research, persons to be contacted, places, as well as times that are chosen. The Mzinyathi access road was completed in 2004. Its full impact on the development of the eThekweni municipality will be efficiently measured six or seven years after its completion. At this stage, the target will be mainly focused on measuring some of the preliminary socio-economic benefits of the Mzinyathi access road. The targeted groups of people include the key staff involved in planning and development of

this programme such as the eThekweni Outer West Operational Entity's principal councillors who will be considered to be the project manager, Civil Design & Management engineers, and the Consolidated Municipal Infrastructure Programme manager all located in Pinetown, Hillcrest and Reservoir Hills. Also a number of households located alongside the Mzinyathi access road will be targeted.

3.3 Data Collection

This research uses a multi-pronged strategy for collecting data, including the following: secondary sources, interviews with key informants, a household survey and focus groups.

These techniques used to collect data are all correlated and they complete each other. Same questions were asked to various groups of people just to get different views on the same matter. For instance, the issue of the linkages between Mzinyathi and access to the basic needs was repeatedly mentioned during the household survey, interviews and focus groups, but responses were not all the same. In addition, these techniques were completing each other in the sense that some unanswered questions from one technique could be obtained from the other. For instance, the household survey shows the percentages of people saving their incomes, while the focus group and interview present the means used to save incomes.

3.3.1 Documentation or Secondary Sources

The secondary research occurs when a project requires a summary or collection of existing data. As opposed to data collected directly from respondents or research subjects for the express purposes of a project (often called empirical or primary research), secondary sources already exist. These secondary sources could include previous research reports, newspaper, magazine and journal content, and government and NGO statistics. Sometimes secondary research is required in the preliminary stages of research to determine what is known already and what new data are required, or to inform research design.

It is important to review the documents (books as well as papers) published worldwide and over different periods in order to avoid duplication and to make a new contribution to the existing body of knowledge. This helps the researcher to create a good understanding of the project and to write a rational literature review. Blaxter (1996:109) pointed out that the literature review helps to place the actual or present work in the context of what has already been done, allowing comparisons to be made and providing a framework for future research.

Procedure

The procedure used to gather secondary sources includes the collection of hard copies as well as the desktop search.

Hard Copies

Preliminary research was undertaken by initially visiting Pinetown where I met with Miss Thembeni Mthembu from the project management unit of the eThekweni Municipality who gave me a preliminary overview of the project. From that meeting a number of Mzinyathi documents were collected including brochures, workshop's minutes of the project steering committee and the project's proposal document.

The second visit was in Reservoir Hills where I met with Mr Govender and other key staff from the project's Civil Design and Management Unit. From this visit, the first interview was conducted with Mr Govender, the director of the entire unit that designed the project. In the meantime, other document of relevancy including brochures, tender books, and various technical documents such as drawings and map books were collected. This preliminary exercise provided the background and other details of the project.

Other books from the University's main library and from the school of development studies' library were consulted as well. Some key books related to this analysis were

given to me for consultation by my supervisor and they were all of importance to the literature chapter.

Desktop Search

Desktop research, as opposed to original market research, involves the accessing of information from both published and unpublished sources. It is not quite market research, but relies on secondary sources of information, and is also known as "secondary" research. The term refers mainly to the published information that is available in written format online sources.

This technique helped me to access a number of written documents worldwide on road infrastructure and to fill some gaps that existed in the other sources. All documents accessed online were critically analysed and reviewed and they are listed in the bibliography.

3.3.2 Structured face-to-face in-depth interview,

In qualitative research, in-depth interviewing is an important research tool for data gathering, with the researcher as the measuring instrument. The face-to-face in-depth interview is flexible and dynamic and has been referred to as nondirective, unstructured, non-standardised and open-ended. Taylor et al. (1984:77) define the in-depth interview as a face-to-face encounter between the researcher and informant directed toward understanding informant's perspectives on their lives, experiences, or situations as expressed in their own words. During interviews, a researcher makes use of descriptive, inferential as well as evaluative techniques. Descriptive techniques require the researcher to see something and write it down while the inferential techniques require making inferences about what is observed and the underlying emotions. The evaluative technique requires the researcher to make an inference and a judgment from the behaviour he/she observes (Brown, 1998:1).

Procedure

I organised a set of interviews with the key stakeholders involved in the planning of the project. Some interviews were conducted on Sundays at the place and addresses indicated by the interviewees given that they could not get time during the weekdays. Others were conducted at the residential places of the interviewees after the normal working hours.

3.3.3 The Survey Approach

According to Denscombe (1998:6) the survey approach can take place in various forms. These include geographic, ordnance, and social surveys and they all attempt to measure a phenomenon comprehensively and in detail. Surveys are used to measure and compare a range of social factors such as poverty, disease, mortality, education and crime. In most of the cases, surveys are associated with government-driven research (Tonkiss, 1998:58). Oppenheim (1992:12) pointed out that surveys could be descriptive or analytic. The purpose of the descriptive survey is to count, answering 'how many' and 'what proportion' questions and it requires a representative sample (Oppenheim, 1992:39). The analytic survey is relational and attempts to explain the relationships between experimental, dependent, controlled and uncontrolled variables (Oppenheim, 1992:21).

The length of Mzinyathi access road is fourteen kilometres and both sides of the roads account for approximately 800 compounds or households. Given the time and funding constraints, only fifteen households were surveyed representing five per cent of the total.

Procedure

As the majority of people at Mzinyathi are Zulu speaking blacks, a Zulu speaking interpreter was used to assist by explaining and translating questionnaires from English into Zulu. Together, in June 2007 we travelled to Mzinyathi road area to hand out the survey questionnaires to households located alongside Mzinyathi access road. Surprisingly Mzinyathi access road does not have many houses alongside it. We were

therefore obliged to go further into the community to hand out the questionnaires. This was very important given that we could get the information even from those living far from the road. At every household targeted, the questionnaire was explained and given to one adult member of the household who was given at least 24 hours to respond to all the questions. The following day the questionnaire was collected from the house. In fact as mentioned above, the area is rural and the majority of people are fluent in Zulu and do not appear to speak English. It was a time-consuming task for both of us to explain every question of the questionnaire.

3.3.4 Focus Group

Focus group is understood to be group discussion between organised samples of people chosen for their similarity of interests, ideas and experiences on specific issues (American Statistical Association, 1997:8). A distinguishing factor is the use of the group interaction to produce data and insights. This results in a more diversified range of responses and an extended basis on which to form the conclusion of the discussion.

The ideal size may vary between six and twelve people, as this helps to prevent a split in conversation. However, it is the responsibility of the moderator to provide clear explanations of the purpose of the group, to help people feel at ease and to facilitate interaction between group members. He has to ensure that the group stays focused and that every participant gets a chance to speak.

Procedure

On Saturday 14th July, the first focus group took place at Senzokuhle Unit, Inanda 4310. Seven people, all of them women participated in the discussion. Two questions for discussion were also organised around how the construction of the Mzinyathi access road has changed their livelihoods. Tangible evidences of the livelihood change were part of the discussions. Throughout the discussions, many benefits of the Mzinyathi road were highlighted. We took the responsibility for recording all the inputs. Given the importance

of the topic, instead of one hour as previously planned, the discussions took two hours and twenty-five minutes.

The second focus group took place at the same place: Senzokuhle Unit, Inanda 4310 on 11th August and eight people participated in the discussions. One of the strategies we chose for the second focus group was to avoid homogeneity of gender as per the first focus group. In the second focus group, male and female participants were mixed together aiming to get additional inputs from male participants.

As part of the whole process, catering and refreshments were organised for the participants as per the first focus group. The same two focus group's questions were clearly explained to the participants in English as well as in Zulu. Throughout the discussions, and the fact that people were gender mixed, we discovered that many more benefits of the Mzinyathi road were highlighted in the second group than in the first and all were recorded. Given that the ambiance of discussion was stimulating and important, we did not fix the time to end the discussions. This group spent four hours and half with us and this technique helped me to make the right comparison between the benefits that project initiators had planned and what people are currently experiencing from the road.

As mentioned in chapter one, for the ethical and the confidentiality purposes, the names and addresses of the respondents are not disclosed.

3.4 Data Analysis

After collecting information, the thematic qualitative method was used to analyse the data. According to Aronson (1994:1) thematic analysis consist of many steps. From the transcribed conversations, patterns of experiences can be listed. This comes mainly from direct quotes or paraphrasing common ideas. Then the identification of all data that relate to the already classified patterns. Related patterns are then combined and catalogued into sub-themes. The next step is to build a valid argument for choosing the themes. Reading the related literature does this. By referring back to the literature, the interviewer gains

information that allows him/her to make inferences from his/her own interview or therapy session. Once the themes have been collected and the literature has been studied, the researcher is ready to formulate theme statements to develop a story line.

All information was captured into an excel sheet and was analysed through the development of the pivot tables. From the pivot tables information were compiled and exported in readable tables and diagrams. From those readable diagrams, a number of key findings that emerged were grouped and presented as themes to respond the main questions of the research.

Conclusion

This chapter dealt with the methodology and techniques utilised to collect information. Many projects are carried out in the province on road construction but given that only Mzinyathi was chosen, the appropriate method to collect information was to use “ the case study approach”. To collect the information the targeted population included the key staff involved in the planning of the project and the households located alongside the Mzinyathi access road. The strategy used for data collection included secondary sources, interviews, a household survey and focus groups. After collecting the information, the thematic qualitative method was used to analyse them. The techniques used to collect information are completing each to provide a full package of the required data.

CHAPTER 4: CASE STUDY APPROACH

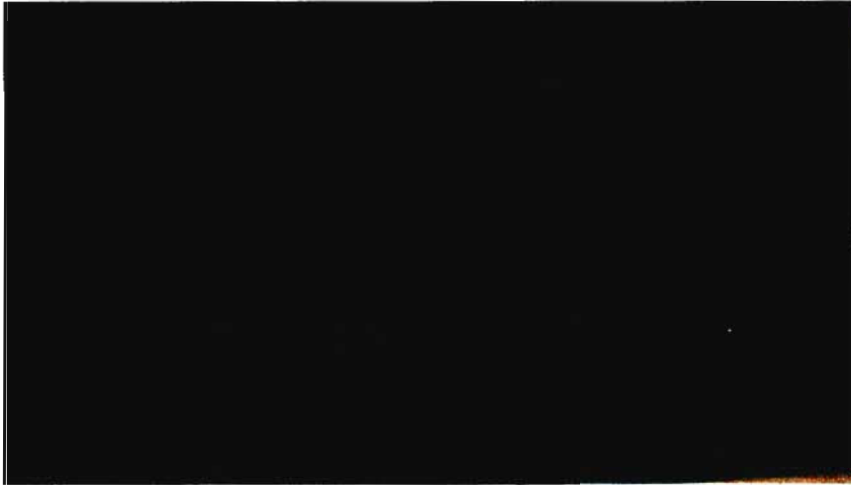
This chapter focuses on the details of the Mzinyathi access road. It is important to understand the details of Mzinyathi access road because this leads to a better understanding of its impact on the livelihood of the communities through which it passes.

4.1 Brief History

uMzinyathi District is comprised of four local municipalities (Endumeni, Nqutu, Umvoti and Msinga) and it is not to be confused with the Mzinyathi access road. In addition, it is important to mention that the Inanda area is vast and includes many small areas among which there is Mzinyathi. Mzinyathi is the area where the Mzinyathi access road is constructed. According to rural community members asked about the real meaning of Mzinyathi, one old man revealed to us that Mzinyathi concept derived from uMuzinyathi that means the house of animal called Nyathi (uMuzi: house, and nyathi which is the name of animal). What should be noted is that this Mzinyathi area is extremely poor and has a high level of apparent service backlogs.

As mentioned briefly in chapter one, Mzinyathi road is the primary feeder road into the whole area to the north of the Inanda Dam. It directly serves the Imbozamo, Mgangeni and Matabetule tribal areas with the total estimated population of 50,000. Before its construction, Mzinyathi was a sand road with little concern given to storm-water control, stability of banks and the geometry of the road as shown on Photo 4.1 below.

Photo 4.1: Mzinyathi Access Road Before The Construction (Gravel Road)



Therefore the scope of works consisted of upgrading 14 km of the existing gravel road to bituminised standard with associated open channel stormwater drainage (Singh, 2002:6.3). The Mzinyathi access road is a District road 718 and Roadcon Construction CC was the company that was given the contract to build it. Roadcon CC undertook the work from its junction with D1607 (Inanda/Phoenix) approximately 14 km to the West to the road crossing of the Umgeni River as shown in the annexure B.

4.2 Financial Details

The project cost was evaluated at R 15 034 320.00 and was jointly funded by both the local authority (Durban Metro) and the Consolidated Municipal Infrastructure Programme (CMIP). CMIP is a developmental programme run currently by the KwaZulu Natal Department of Local Government and Traditional Affairs. In fact the purpose of CMIP is the enhancement of the development impact of the delivery process by focusing on the transfer of skills, the promotion of small, medium, and micro enterprises (SMMEs), using labour-intensive construction methods and maximising job-creation opportunities.

In the construction of the Mzinyathi access road, the CMIP provided 80% (R 12 027 456.00) of the total amount. The local authority, the eThekweni Municipality provided

also the remaining 20% (R 3 006 864.00) of the amount. The project was planned to finish in 52 weeks but took a bit longer than anticipated. Work started on 30th January 2003 and the Mzinyathi access road was fully completed in September 2004, which account for approximately twenty months.

Photo 4.2: Mzinyathi Access Road under Construction

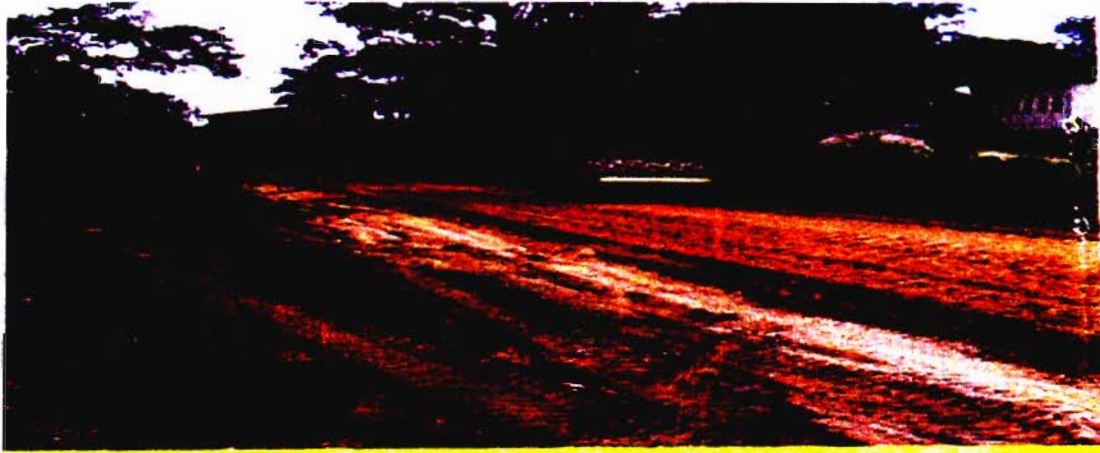


Photo 4.3: Final Stage of Mzinyathi Access Road



4.3 Targeted Labour force

According to the eThekweni Municipality procurement code, any public work executed by a contractor needs to meet certain requirements. Priority needs to be given to certain groups

of people including the historically disadvantaged individual (HDI), priority population group (PPG), black business enterprise (BBE), priority business enterprise (PBE), Women business enterprise (WBE), and the disabled persons business enterprise (DPBE) (Singh, 2002:17).

Historically Disadvantaged Individual (HDI) includes black individuals, women, and disabled individuals and preference has been given to all these target groups who, due to the apartheid policy that had been in place, had no franchise in national elections prior to the introduction of the new constitution of the Republic of South Africa, 1983 (Act No 110 of 1983) or constitution of the Republic of South Africa 1993 (Act No 200 of 1993), (The Interim Constitution) (Singh, 2003:9).

The Priority Population Group (PPG) includes black individuals who fall into population groups that were not offered a franchise in the national elections before or after the introduction of the 1984 tri-cameral parliamentary system and only received a franchise in 1994. The experience shows that this exclusion had a negative effect on their lives, resulting in them being worse affected in terms of poverty levels, unemployment and/or unfulfilled basic needs (Singh, 2003:9).

The Black Business Enterprises (BBE) are characterised by being at least 26% black owned in terms of equity and voting rights/powers, with the corresponding management representation at all levels (Singh, 2003:9).

The Priority Business Enterprise (PBE) must be at least 26% black owned in terms of equity and voting rights/powers, with the corresponding management representation at all levels (Singh, 2003:9).

The Women Business Enterprise (WBE) should have no less than 26% women owned in terms of equity and voting rights/powers, with the corresponding management representation at all levels (Singh, 2003:9).

Disabled Persons Business Enterprises (DPBE) must be at least 26% disabled owned in terms of equity and voting rights/powers, with the corresponding management representation at all levels (Singh, 2003:9). There is a need to mention that disability means a permanent or prolonged impairment of physical, intellectual, or sensory structure, or function, which results in restricted, or lack of ability to perform an activity in the manner, or within the range, considered normal for a human being (Singh, 2003:9). A disabled person is an individual who has a disability and as a result suffers from loss, or limitation of opportunity to take part equally with others in the context of any activity relating to the execution of a contract (Singh, 2003:9).

To this end, Roadcon was required to give preference to the use of local community labour from and limit the use of non-local labour to key personnel only. The local community labour can be understood as people who reside in the Mzinyathi area who have been identified by the project Steering Committee to be employed on the project. Key personnel are defined as foremen and skilled labourers without whom the particular job could not be accomplished. As far as possible, these people should impart their management and building skills to individuals within the community workforce who show a keen interest and display willingness to learn.

In the local community labour force, a minimum of 50% of employment was attributed to women, which included both the semi-skilled and unskilled local labourers. A minimum of 30% was also allocated to both the semi-skilled and unskilled youth. Note that here youth is defined in terms of the national Youth Commission understanding and includes people under the age of 36 years. A youth can qualify under the women category if the person employed is both female and under the age of 36 years. Further, disabled persons constituted a minimum of 1.5% of both unskilled and semi-skilled labourers employed within a local community labour force.

Conclusion

This chapter dealt with the description of the Mzinyathi access road. Mzinyathi road is a District road Number 718. It is 14 Km long and the construction work started from its junction with D1607 (Inanda/Phoenix) and continued approximately 14 km to the West to the road crossing of the Umgeni River. Many activities were undertaken during the construction of the road including the clearing and grubbing of the site, stormwater drainage, and the road works. The project cost a total of R 15 034 320.00 and the amount was jointly funded by both the local authority (Durban Metro) and the Consolidate Municipal Infrastructure Programme (CMIP). Both CMIP and the Durban Metro provided the project with respectively 80% (R 12 027456.00) and 20% (R 3 006 864.00) of the amount needed. The project was planned for 52 weeks (12 months) but lasted approximately 20 months that is to say from 30th January 2003 to September 2004.

CHAPTER 5: FINDINGS AND DISCUSSIONS

This chapter presents the key findings that emerged from the information collected on the Mzinyathi access road. As I will be shown below, the finding results make it clear that the socioeconomic impact of Mzinyathi road covers an exceptionally large array of issues. However, these issues can be put in three categories:

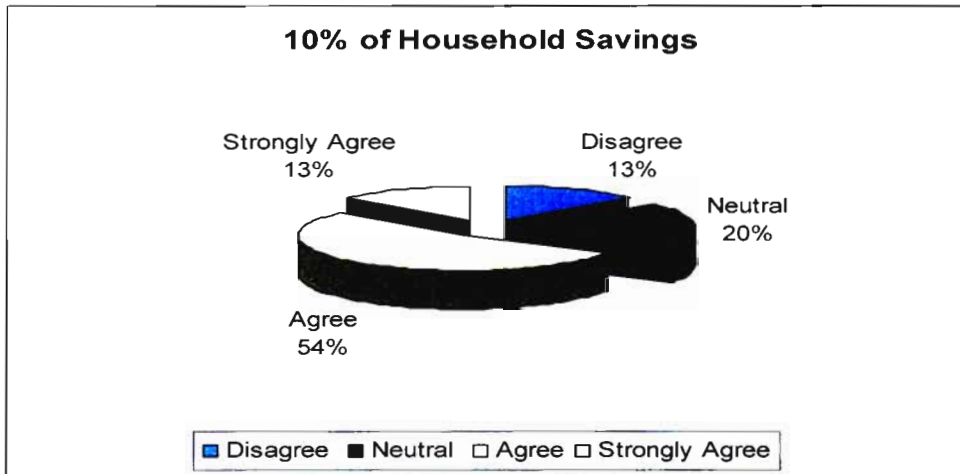
- Mzinyathi road project outputs, such as vehicle operating costs, duration and fares of transport, frequency of trips, accessibility of roads.
- Mzinyathi road project outcomes, such as access to basic needs jobs, markets, health and education facilities.
- Mzinyathi road welfare or living standards outcomes, such as incomes health status.

These outputs and outcomes are the direct effects of the Mzinyathi access road while the welfare or living standard is made of the indirect achievements.

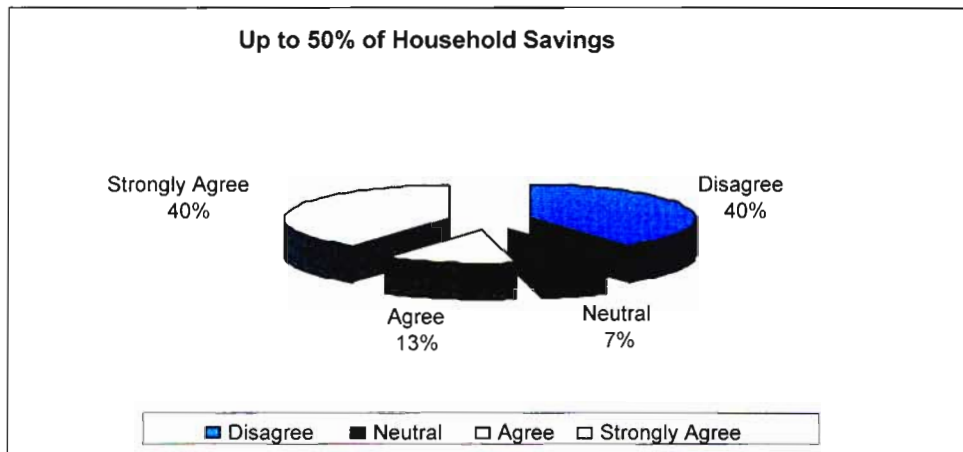
Combining the direct and indirect achievements of Mzinyathi access road, the following ten themes emerged. These themes are presented in line with the stated objectives of the study and are based on the qualitative analysis emanating from various techniques utilised to collect data. Discussion follows each finding to show its meaning and contribution to the existing body of literature on the road infrastructure and development.

5.1 Mzinyathi and Household Savings

As shown in the following figure 5.1, more than half of the respondents from the household survey (54%) pointed out that the Mzinyathi access road had allowed them to save up to 10 per cent of their income. Twenty per cent of them remained neutral, thirteen per cent disagreed and thirteen others strongly disagreed.

Figure No 5.1: Mzinyathi and Household Savings up to 10%

The following figure 5.2 shows two extreme poles. On the one hand, 40 per cent of the respondents disagreed while on the other 40 per cent strongly agreed that the construction of the road has allowed them to save up to 40 per cent of their income.

Figure No 5.2: Mzinyathi and Household Savings up to 40%

Among other factors mentioned by the respondents that allowed people to save their income include the following:

- Washing of the cars (Gravel roads make cars very dirty).
- Maintenance of the cars (Gravel roads damage cars).

- Spending money on buying of new shoes (long distance of walk on the gravel roads damage shoes).
- Buying groceries at the high price from local Tuckshops.

Here are some quotes from some of our respondents:

Mr. A stated:

“Most of the time I was spending a lot of money on the maintenance of my car. Maintaining the car for me was a daily task since with the gravel road I was expecting things like puncture, loose screws, exhaust problems etc. but since the road was built I am servicing my car once or twice per year. The road to a great extent allowed me to save my money”.

For Mr. B

“As I am working in Durban city centre, apart from other damages, my car has to be washed everyday morning because of dust from the dirty gravel road”.

For Miss C

“I was walking for a long distance to the taxis and buses’ picking-up points. But as the picking-up points were not close to us, my shoes were always getting damaged. For this reason I was spending my money to buy shoes almost every month. But since the road has been built, the taxis and buses come to fetch us from five to ten metre walking distance. Therefore I am no longer spending my money on buying new shoes”.

For Miss D

“As a community we are saving a lot since the road has been constructed than before. For instance, before we were buying groceries, which were extremely expensive (three to four times higher than the normal price) from mobile Tuckshops. If you asked to a neighbour who has a car to give you a lift to Town, he would charge a lot again for his car’s petrol and service. But since the road has been constructed, we buy from Town and put our groceries in the bus free of charge and really we are saving”.

Discussion

From the above statements, the links between the Mzinyathi access road and the household savings aspect is apparent. The money that would have been spent on issues related to the road is now saved and households therefore have the opportunity to access other basic needs including clean water, electricity, clothing, education and the like.

God advice will be to encourage the culture of saving since it gives to the savers a freedom of economic choice, liberty, and a longer life expectancy as stated by Sen (2001). Therefore, Mzinyathi access road is among factors that give freedom to people.

Broad Approach

Commonly the word saving means putting money aside, in the bank or investing in a pension plan (Wikipedia, 2007:1). Comparing the finding on savings to the real meaning of the concept it should be stated that people did not save the money but their lives improved, because the money saved from maintaining the cars, etc is spent for other purposes. Of importance is that the road enables household a smooth consumption of goods which were not accessible before and relieves them from the poverty pressure.

5.2 Mzinyathi and Water and Electricity

Access to safe drinking water is a fundamental human need and therefore a basic right. Contaminated water jeopardises both the physical and social health of all people and it is an affront to human dignity (WHO, 2003:1). The lack of access to clean water is directly linked to high levels of mortality due to water related diseases. Although there are many more, these are some of the most common water related diseases: Cholera, Fluorosis, Guinea worm disease, Schistosomiasis, Trachoma, Typhoid, and Chronic dehydration. Despite the fact that so far there is not research done at Indanda that presented the above water related diseases, it is argued that majority of places where there is not clean water, those diseases exist.

Access to electricity and clean water and acceptable sanitation services was a pipedream for the bulk of the rural population surrounding the Mzinyathi road. Directly the construction of the Mzinyathi has led the eThekweni Metro to build the uMngeni dam that allowed the supply of both water and electricity in the community. Indirectly, despite the fact that water was brought into the community not everybody was able to connect electricity and water tap in the yard but with the personal savings as highlighted above, people were able to do get connection of these services.

Discussion

It should be noted that the supply of electricity in Mzinyathi has a number of advantages that need to be particularly highlighted.

Saving of money: Before the supply of electricity people were spending more on gas and paraffin for cooking and other domestic purposes but with the supply of electricity and the fact that the electricity bill is lower, people can save a bit now.

Saving life: The use of candles at night in many cases resulted in the burning down of a number of small houses and shacks in the Mzinyathi area. Since the electricity was supplied, people are less exposed to been victims of unexpected fire.

On the other hand, electricity has helped people to put electronic gates and alarm systems on their houses for their safety. These systems did not exist before the power was supplied.

Broad Approach

There is a need to keep in mind that not any road constructed in South Africa has the possibility of leading to the supply of water and electricity. Provincial and local governments plan for the water supply even where road construction's projects are not taking place. If the water was not simultaneously supplied with the construction of the

road, later, the supply of these services could always take place. Therefore, the construction of Mzinyathi access road remains an exceptional case where the supply of water coincided with the construction of the road, thereby adding a contribution to the existing literature on the road and development. Further, this coincidence of road construction and water/electricity answers to the research sub-question on the link between road infrastructure and access to basic needs.

5.3 Mzinyathi and Other Basic Needs

The following table 5.1 highlights the percentages of the respondents in terms of accessing to other basic needs as a result of the construction of Mzinyathi access road.

Table No 5.1:% of People Accessing the Basic Needs.

No	Access to basic Needs	%
1	Access to Food	26.6
2	Access to Clothing	26.7
3	Access Education	40
4	Access to Transport	80

5.3.1 Mzinyathi and Clothing and Food

26.6% of the respondents from the household survey pointed out that they now have an easy access to food than before the construction of the Mzinyathi road. In the same vein, 26.7% highlighted about the easy access to clothing.

Two means explain the easy access to food and clothing:

- First, people who got the opportunity to be employed during the construction of the road, they easily accessed food and clothing through their wages.

- But for the community as a whole the road helped them to save their incomes and this gave to them access to food, clothing and other basic needs. Importantly with the water supplied, the majority of people have now small gardens as a means of food security.

5.3.2 Mzinyathi and Education

In terms of education, 40% of the respondents pointed out that the construction of the Mzinyathi road played a major role in making the access to educational facilities easier.

For instance, savings allowed people to send their children to school and to regularly pay the school fees. In addition, the road allows many school buses from Phoenix, Verulam, and Durban to come to uMzinyathi area to fetch pupils, thereby making the access to education easier and affordable to the majority of poor people than before. For instance school buses from Senzokuhle primary school, Mzinyathi high-primary school and Tabeka High School are regular now here than before the construction of the road.

5.3.3 Mzinyathi and Transport

Access to transport existed previously, however very infrequently. With the construction of the Mzinyathi access road, the transport increased and improved as well tremendously in the area. 80% of the respondents acknowledged that many buses and taxis are frequenting the areas many times. The linkage between Mzinyathi road and transport will be dealt in detail in the paragraph dealing with HIV/AIDS.

Discussion

The construction of the Mzinyathi access road improved food and clothing access for the people, facilitated a good education of school children at Inanda area and improved the transport means in the area. Before Mzinyathi road was constructed, people accessed

food and clothing, children attended school but with many challenges. Also other means of transport existed in the areas, but with more challenges.

Broad Approach

The construction of Mzinyathi access road changed people's livelihoods at Inanda through access to food, clothing and reliable transport means. Although the link between Mzinyathi with food and clothing remains indirect, still it contributes to the current literature on the need for road infrastructure.

Apart from the basic need, the construction of Mzinyathi access road also influenced other factors such as tourism, SMMEs, political participation, migration, HIV/AIDS and job opportunity.

5.4 Mzinyathi and Tourism

Tourism is all travel for whatever purpose, which results in at least one night being spent away from home (Urban-Econ, 2006: 4). The three broad categories that explain why people spend a night away from home are as follows; Recreation, Visiting friends or relatives, and Business. Tourism is vital for many countries, due to the income generated by the consumption of goods and services by tourists, the taxes levied on businesses in the tourism industry, and the opportunity for employment in the service industries associated with tourism. These service industries include transportation services such as cruise ships and taxis, accommodation such as hotels, restaurants, bars, and entertainment venues, and other hospitality industry services such as spas and resorts.

Inanda Dam and Resort is situated on the Inanda in the Valley of a Thousand Hills below Hillcrest in KwaZulu Natal. This resort offers all forms of recreational boating and is famous for its bass fishing. 73.3% of the respondents pointed out that many tourists are flowing in the area than before Mzinyathi was constructed.

Photo 5.1: Inanda Dam Resort



A statement from Miss E, a bead and craft seller:

“The construction of Mzinyathi access road has boosted our business. In the weekend for example, tourists frequent more the area than before the road was constructed and I used to bring my children to help selling our crafts since they are a lot of customers (tourists)”.

Discussion

The construction of Mzinyathi access road helped a number of households (especially the craft sellers) secured more jobs and higher and more stable incomes than they had before with the increasing volume of tourists in the area. Before the road was constructed, majority of tourists were local with few activities taking place at the Inanda Dam Resort. Bead and craft sellers also experienced difficulties in transporting their goods from home to the Resort.

Broad Approach

Although there are not exact figures to compare the number of tourists and tourism related small businesses in the area before and after the Mzinyathi road was constructed, there is a need to mention that other means can still explain the increase in number of

tourists as well as tourism related business and activities. Among others there are the general economic growth of the province, the decrease in crime rate in the area and the like.

5.5 Mzinyathi and SMMEs

SMMEs are vital in the developing economies' providing the balance between the supply and demand on the job market, bringing the competition among the businesses that leads to the more efficient utilisation of the resources, development of skills and technology, and thus the overall development of the economy. As identified in National Small Business Act, No. 102 of 1996, "small business" means a separate and distinct business entity, including cooperative enterprises and non-governmental organisations, managed by one owner or more which, including its branches or subsidiaries, if any, is predominantly carried on in any sector or sub-sector of the economy and which can be classified as a micro, a very small, a small or a medium enterprise. An SMME distinguishes itself from 'Big business' as it typically has a smaller turnover, marginal asset value, smaller number of employees, simpler organisational structures and generally lower barriers to entry and less onerous legal obligations and regulative compliance issues (Urban-Econ, 2007:4).

60 % of the respondents pointed out that there are number of emerging small businesses in uMzinyathi area since the road was constructed. Previously, the area was frequented by mobile Tuckshops. But with savings and other improvement generated by the road, five permanent tuck-shops are now in the area.

Miss F and Miss G pointed out that before the end of this year (2007) they are going to open a B&B (bed and breakfast) in their area mainly because of the recent increase of tourists and other activities.

Discussion

The emergence of new five small businesses (tuckshops) in the area as a result of the road construction illustrates the tangible evidences on how the construction of the Mzinyathi access road has changed people's livelihoods at Inanda and answers to the study question.

Broad Approach

There is a need to mention that the link between Mzinyathi access road and SMMEs development is not a simple coincidence. The roads in general play major roles in small business development throughout the country. The Department of Trade and Industry (the dti) through Small Enterprises Development Agency (SEDA) programme drives the development of SMMEs including co-operatives in South Africa through various support services including the lobbying for the improvement of road infrastructures. Therefore the construction of road infrastructure has a direct link and impact on SMMEs development.

5.6 Mzinyathi and Political Participation

46.7 per cent of the respondents said that Mzinyathi road has increased the participation of people, especially women, in local government affairs and other political rallies in Durban and in other areas due to the easy access to buses in the area.

Zandile Xaba pointed out that many women attend "indaba and Imbizo meeting" in Durban to discuss about political and economic issues of our areas, in order to avoid being surprised by the national authorities as per the case in Khutsong area.

Discussion

Reliable means of transport in the area after Mzinyathi was constructed permitted to people to attend and participate in various political meeting both at municipal and provincial levels. This, in one or another way improved their livelihood.

Broad Approach

Political participation has a great impact on decision-making processes. People are encouraged to participate in meeting related to their local issues in order to avoid the top-down approach of decision-making. Mzinyathi road allowed indirectly people to avoid the top-down approach of decision making by letting people to access various means of transport to attend the meeting. Political participation has major benefit by allowing poor people to access government officials and let them know their needs.

5.7 Mzinyathi and Migration

Some respondents from the focus groups pointed out that new people have settled in the area since the road was constructed. Many people settled firstly because there were some available lands. The second reason is that the construction of the road has allowed the building companies to easily access the area bringing construction materials (cement, bricks, etc), which was not feasible before.

The owner of the house where our focus group took place, pointed out that “ I wanted to build this house long time ago, but the construction companies were not able to bring materials here (they suggested the use of tractors, which I could not afford). But once the road was completed I started to build it. As you can see, it is not yet fully finished”.

Thirdly, some respondents from the focus groups organised highlighted that uMzinyathi area is almost a crime free zone.

Discussion

Generally, people migrate from rural to urban area however in Mzinyathi people come from Durban (Urban area) to uMzinyathi area, which is a deep rural area. Therefore, the construction of Mzinyathi has played a major role in this migration processes and adds a new element to the existing body of knowledge on road infrastructure.

Broad Approach

As stated above, the migration movement might be international from one to another country/continent to another or internal or local from a rural to an urban area. Although the respondents highlighted the link between the construction of Mzinyathi and the number of people settling in area, there are other many reasons behind this kind of demographic issue. Some people are tired with the city life and want to settle to the rural area where sometimes crime rate is lower than in urban areas. Further, retired people and pensioners prefer to complete rest of their life in the rural areas rather than in urban vicinity. Therefore, the Mzinyathi road needs to be counted among other means of migration processes.

5.8 Mzinyathi and HIV/AIDS

Eighty percent of the respondents from household survey and the focus groups pointed out that there is a direct link between the construction of Mzinyathi access road and the health of people. On the one hand, ambulances and other private means of transport to the hospitals and clinics can travel through Mzinyathi access road to pick up the sick people in the area. On the other hand, as per other rural areas, mobile clinics frequent Inanda areas via Mzinyathi access road to take care of the sick people. This confirms what has been pointed out by Queiroz et al (1992:5) that road assets in developing countries play an essential role not only in marketing agricultural products and in providing access to agricultural inputs and extension services but in providing also access to health and education.

A respondent H stated that:

“The major problems experienced by people affected and infected by the pandemic were that, the KwaZulu-Natal Emergency Medical Rescue Services were not able to access the area because of the poor road infrastructure. In addition even some of private medical rescue services such as ER 24 were not also coming to rescue people in the area (especially during the night time). Therefore, people with HIV/AIDS and other diseases

were obliged to walk long distances to the taxi's pick up points to go to the hospital in Phoenix, Verulam, or Durban. However, if the situation becomes worse during the night, there was nothing else to do than to wait for the next morning. Therefore, the strong survived and the weak perished. With the construction of Mzinyathi road, today the emergency medical services access the area many times everyday".

Discussion

Mzinyathi area as per other KZN areas accounts for a number of people affected and infected by HIV/AIDS but what needs to be highlighted is that the area is very poor and people rely on public health services rather than private doctors.

There is a direct link between the construction of Mzinyathi access road and the health of people. On the one hand, ambulances and other private means of transport to the hospitals and clinics can travel through Mzinyathi access road to pick up the sick people in the area. On the other hand, as per other rural areas, mobile clinics can be sent to Inanda areas via Mzinyathi access road to assist and help sick people. Therefore, Mzinyathi access road has saved lives of many indirectly through the easy access of the medical service to the area.

Broad Approach

The high prevalence of HIV/AIDS remains a major concern in the country at both the macro and micro level. As Sen (2001) mentioned AIDS affected people are stigmatised and sometimes not able to earn an income or perform any economic activity. Therefore, any developmental project in the area needs to have a multiplier effects reaching poor people with the right mix of services, involving them in a way that ensures sustained improvement in their quality of life including consideration of the impact of HIV/AIDS pandemic.

5.9 Mzinyathi and Job Opportunities

As a public infrastructure, the Mzinyathi access road has generated many jobs during its construction's phase as mentioned in the preceding chapter. Nevertheless, 53.4 % of our respondents highlighted that since the road was constructed, people are still getting employed in Phoenix, Verulam, Springfield, and even in the Durban city centre.

Miss J. pointed out that “we managed to save a little money (about R450.00) and gave it to our two cousins as bus fare to go to Durban to look for a job. Thank God one was employed as a Security Guard at the company called SA Patrol. Three weeks later another cousin was also temporarily employed as shop fitter. The main chance for them getting job in Durban was the easy transport from our area to Durban by bus or taxis.” Therefore, the construction of Mzinyathi access road is directly and indirectly linked to job opportunities.

Discussion

In South Africa because public works offer sometimes a temporary employment opportunities as mentioned in the preceding chapters, there is belief that they do not really move participants out of poverty, but just offer them a temporarily respite, reducing the depth of poverty during the period of employment. But in the case of the Mzinyathi access road both aspects were fulfilled. On the one hand, during its construction, Mzinyathi access road provided temporary job opportunities of the local people. On the other hand people are securing permanent jobs outside uMzinyathi area mainly because of the easy transport access. This finding supports the suggested benefits of Mzinyathi road planned by the project management team as highlighted in the first chapter of this study.

Broad Approach

As Sen (2001) and McCord (2008) mentioned, unemployment, besides the loss of income, has many complementary effects including psychological harm, loss of work motivation, skills and self-confidence, increase in ailments and morbidity etc. therefore the labour intensive public infrastructure such road need to be encouraged in the country to fight the above challenges.

5.10 Mzinyathi and other Crosscutting Themes

During the collection of data, we have addressed also the issue related to the synergies between the Mzinyathi access road and the women and the black economic empowerment (BEE).

5.10.1 Mzinyathi and Women Empowerment

It should be noted that the dominant portion of the South African population is made of women and the great number of those women are amongst the poor and survivalist. These demographics apply also to Mzinyathi area. Therefore, any project that pretends to be developmental needs to target and to empower women. Women empowerment implies increasing the extent to which black women own and manage existing and new enterprises, and increasing their access to economic activities, infrastructure and skills training. Further, it implies to make progress towards gender equality by eliminating gender disparities. This can be achieved through a preferential treatment of women by means of procurement policy and by utilising innovative instruments to systematically build women's competence and capacity.

It was observed that the Mzinyathi access road project did not target the aspect of empowering local women. Apart from lucky women temporarily employed during the construction (a number that was not even highlighted by the interviewees), 50 % of the respondents from the household survey pointed out that the construction of the road did not empower local women and even during the recruitment of the labour force, the gender balance criterion was not taken into consideration.

5.10.2 Mzinyathi and BEE

South Africa's policy of broad-based black economic empowerment (BBBEE) is not simply a moral initiative to redress the wrongs of the past. It is a pragmatic growth strategy that aims to realise the country's full economic potential. Black economic empowerment is not affirmative action, although employment equity forms part of it. Nor does it aim to merely take wealth from white people and give it to blacks. It is simply a growth strategy, targeting the South African economy's weakest point: inequality (South Africa's Economic Transformation, 2003:13).

The majority of people employed during the construction of Mzinyathi access road were black, but this does not mean that the project had a programme to empower black people. Household survey, interviews, focus groups, etc did not reveal any means of training that was provided to the workers during the course of work as a method of capacity building. Therefore, black people employed were made use of simply because the project needed the labour force.

This area needs to be addressed since social capital development (referred to the arrangements that society makes for education, healthcare and so on) influences the individual's substantive freedom to live better and to effectively participate in the economic and political activities of the society as defended by Sen (2001). Therefore, road infrastructure programmes must reach poor people with the right mix of services, involving them in a way that ensures sustained improvement in their quality of life and contributes to their own economic empowerment as stated by Kristen (2006:22).

Conclusion

To sum up, there is the need to highlight that the Mzinyathi access road has had major impacts at uMzinyathi area. The construction of the road has helped the community to save their incomes and to access the basic needs such as food, clothing, and education which improved their livelihood conditions. Also the road has helped people to get access

to water, electricity and even to stabilise their respective families. The road gave access to tourism and SMMEs development, job opportunities, migration, participation in some democratic actions and easy access to health care. But an area which was not addressed by Mzinyathi road remains that of the social capital development. The factors highlighted above are not exhaustively listed. Other future studies might sometimes reveal more roles that a road infrastructure might play in the lives of people in the community.

GENERAL CONCLUSION AND RECOMMENDATIONS

The present qualitative research project explored the impact of the Mzinyathi access road on the development of Durban (eThekweni). The majority of rural areas of Durban have a service backlog and people still face a number of developmental challenges linked to poverty.

The study reviewed and assessed the existing literatures on road infrastructure. Importantly, the literature review gave a basis for the current study through the establishment of the research gaps on road infrastructure's literature. This allowed the current and other future researches to bring new additional contributions.

The research took place at Inanda, specifically in the Mzinyathi area, which is rural and fully resided in by black Africans. The Mzinyathi area is a 45 minutes drive from Durban on the Indian Ocean but poverty in many of its manifestations is found in this area: unemployment, limited access to basic needs and services such as clean water, shelter, health and sanitation, clothing, education and health care services.

Overwhelmingly, the results or findings show that the construction of the Mzinyathi access road has had a major impact on development of this rural area. People at Inanda and especially at Mzinyathi area were of the opinion that their quality of life has improved tremendously since the road was constructed.

The construction of the road has helped the community to save their income and to access the basic needs such as food, clothing, education and health care. Also the road made it easier for people to access to water, electricity and to participate in political meetings. A number of SMMEs emerged and tourism industry moved in the area as a result of the construction of the road. Further, the road provided direct and indirect job opportunities to rural community members allowing them to improve their livelihood.

RECOMMENDATIONS

This research study of the developmental impact of the Mzinyathi access road has showed that the road construction is another important tool in the State's goals and missions to alleviate poverty. Inanda and especially Mzinyathi has been identified as a poverty pocket where the families are struggling to access basic needs. With the construction of the Mzinyathi access road the majority of families are benefiting in accessing the basic needs.

However, given the deep level of poverty at Mzinyathi area as well as the area big size, Mzinyathi access road could not address all poverty issues of the area. Findings highlighted that other areas such as social capital development were not addressed by the project. Based on those findings the following recommendations for practice can be made:

- There is a crucial need for moving away from the former conception or way of thinking that the public works specifically the roads have to be constructed only for job purposes. The road is able to address many more developmental issues than job opportunities.
- Another important recommendation, specifically in South Africa's context, consists of giving priority to rural road construction rather than urban ones. The majority of urban roads constructed are done mainly for the beautification purpose of the city, whilst the rural roads in rural communities address the majority of people's needs.
- At Mzinyathi area, only the Mzinyathi access road has been constructed, other roads still in their former states (gravel road), therefore there is a need to construct other roads in that area, hoping that they will uplift the lives of many in the area.
- Given the crucial role played by the Mzinyathi access road, another recommendation consists of prioritising the road infrastructures' construction rather than other infrastructures in various Districts' and Local Municipalities'

Integrated development Planning (IDP) and Local Economic Development (LED) strategies.

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ANNEXURE A: CONSULTATION LIST, QUESTIONNAIRE FOR HOUSEHOLD SURVEY, INTERVIEWS AND FOCUS GROUPS

A.1 Consultation List

Thembeni Mthembu	Project Management Unit eThekwini Municipality
Steven Chety	Outer West Operational Entity
Stephen Gray	Roadcon Construction cc
Devan Govender	Civil Design and Management Unit
Sunhil Singh	Civil Design and Management Unit
Stanley Hlatshwayo	eThekwini Municipal Councillor

A.2 Questionnaire for Household Survey

Good day, I am Leon Ntambwe Katambwe from University of KwaZulu Natal, I am doing research on a project entitled 'Public Infrastructure: an assessment of the developmental impact of road infrastructure in the Durban municipal region, the case of Mzinyathi access road'. This survey is for a Masters dissertation in the school of Development Studies and please be so kind to answer the following questions for me.

Before we start I would like to emphasize that:

- The information you provide will be treated as confidential and it will be processed in such a way that no personal identification is possible;
- Your participation is entirely voluntary;
- You are free to refuse to answer any question; and
- You are free to withdraw at any time.

Direction:

This survey will ask you to reflect on various developmental aspects that Mzinyathi access road achieved in your life as well as surrounding community. For each statement bellow indicate your level of agreement using the following five point scale: Strongly Disagree, Disagree, Neutral, Agree, and Strongly Agree.

Personal details can be presented under no compulsion

Name of interviewer	
Date of interview	
Name and surname of interviewee	
Age:	
Marital Status:	
Gender:	
Race:	
Level of Education:	

1. Personally, were you in pressing need of the construction of road in this place?

1 Strongly Disagree	
2 Disagree	
3 Neutral	
4 Agree	
5 Strongly Agree	

2. Among other reasons, Mzinyathi access road was mainly constructed to alleviate poverty in your family and community.

1 Strongly Disagree	
2 Disagree	
3 Neutral	
4 Agree	
5 Strongly Agree	

3. Do you think Mzinyathi access road was also constructed because of tourism at Inanda dam?

1 Strongly Disagree	
2 Disagree	
3 Neutral	
4 Agree	
5 Strongly Agree	

4. Your monthly income rose from 0 to 10 % as a result of this road project?

1 Strongly Disagree	
2 Disagree	
3 Neutral	
4 Agree	
5 Strongly Agree	

5. Your monthly income rose from 10 to 50 % as a result of this road project?

1 Strongly Disagree	
2 Disagree	
3 Neutral	
4 Agree	
5 Strongly Agree	

6. Your monthly income rose from 50 to 100 % or more as a result of this road project?

1 Strongly Disagree	
2 Disagree	
3 Neutral	
4 Agree	
5 Strongly Agree	

7. In your family, access to clothing improved now than before the road was constructed?

1 Strongly Disagree	
2 Disagree	
3 Neutral	
4 Agree	
5 Strongly Agree	

8. In your family, access to shelter is better now than before the road was constructed?

1 Strongly Disagree	
2 Disagree	
3 Neutral	
4 Agree	
5 Strongly Agree	

9. In your family, access to food improved now than before the road was constructed?

1 Strongly Disagree	
2 Disagree	
3 Neutral	
4 Agree	
5 Strongly Agree	

10. In your family or area, new enterprises emerged as result of this project?

1 Strongly Disagree	
2 Disagree	
3 Neutral	
4 Agree	
5 Strongly Agree	

11. Among the emerging businesses, majority are black owned?

1 Strongly Disagree	
2 Disagree	
3 Neutral	
4 Agree	
5 Strongly Agree	

12. Women in general are among the most vulnerable beings; and in South Africa they are among the majority of poor people; has Mzinyathi access road project empowered some of them in your family or area?

1 Strongly Disagree	
2 Disagree	
3 Neutral	
4 Agree	
5 Strongly Agree	

13. Sick people (with any illness or HIV/AIDS related disease) in your family or area get quickly to the hospitals and other medical service than before the construction of Mzinyathi?

1 Strongly Disagree	
2 Disagree	
3 Neutral	
4 Agree	
5 Strongly Agree	

14. Today the emergency medical rescue services access rapidly to your area than before the road was constructed?

1 Strongly Disagree	
2 Disagree	
3 Neutral	
4 Agree	
5 Strongly Agree	

15. The number of children accessing to school improved in your family than before the construction of this road.

1 Strongly Disagree	
2 Disagree	
3 Neutral	
4 Agree	
5 Strongly Agree	

16. Easy transport service by Mzinyathi road helped people from my family and area to secure jobs in Durban inner city and other close towns than before.

1 Strongly Disagree	
2 Disagree	
3 Neutral	
4 Agree	
5 Strongly Agree	

17. Mzinyathi access road helped my family and people of my community to attend and participate actively in various political meetings, workshops and rallies than before.

1 Strongly Disagree	
2 Disagree	
3 Neutral	
4 Agree	
5 Strongly Agree	

18. The easy access to basic needs in my family as a result of Mzinyathi road, stabilised my family and helped us to consolidate our family relationships.

1 Strongly Disagree	
2 Disagree	
3 Neutral	
4 Agree	
5 Strongly Agree	

19. Would you please describe any other success that Mzinyathi access road has achieved in your life or family?

1	
2	
3	
4	
5	

Thank you so much for taking your time to participate in the survey.

A3 Staff Interview Guide

1 Why do they give priority to Inanda area than others (because many other areas are also not built up)?

2 Do you think Inanda for instance, was in urgent need of this road? E.g. What for?

3. Many say that Mzinyathi access road was mainly constructed because of tourism at Inanda dam, do you agree?

4. Why the name of Mzinyathi road? Is there any specific meaning?

5. During the recruitment, were you taking into account the issue of gender parity?

6. In your view, was the labour force satisfied with the level of wage paid?

7. Were the safety measures taken into account at the work place?

For example:

8. Was there any training section provided in place to improve the workers skills level?

If any training, give some details in terms of:

- How many weeks?

- What kind of courses?

- When labour is in training, what about his daily life in terms of wage?

9. How many people do you think benefited from this project?

10. Would you please give in more details the kind of benefits?

11. Through the construction, do you think some small enterprises emerged?

12. How did they emerge?

13. Among those emerged enterprises do you think more black owned increased in number?

14 would you please explain the linkages between road and community access to following basic needs:

- Health care

- Shelter

- Clothing

- Income savings

- Education,

■ Water and sanitation

■ Transport

15. Do you think is there any link between road and the community access to job in surrounding towns?

16. Would you please describe any other success that Mzinyathi access road has achieved in your life or family?

A4 Question for Focus Group

1. How has the construction of this road changed your livelihoods in this area?

2. Would you please highlight the tangible evidence illustrating this improvement?

PS: If during the discussions the points below were not mentioned, I will still have to ask them:

3. But what about this:

- Is the access to basic needs such as water, sanitation, education, etc made easier by the road construction? How?
- Do households have higher and more stable incomes than before the road was constructed? Demonstrate it please