

Impact of HIV/AIDS in the construction industry

by

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DECLARATION

I, the undersigned hereby declare that the work contained in this assignment is my own original work and that I have not previously in its entirety or in part submitted it at any university for a degree.

Date: March 2009

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SUMMARY

This document, ‘Does the working environment that construction workers are exposed to contribute to the high rate of HIV incidences?’ is essential in any institution or department dealing with construction work.

The objectives of this study was i)To identify the working environment that construction workers are exposed to, ii) To determine whether or not these working environments contributes to the spread of HIV and iii) To develop control measure

that can mitigate the spread. The study was carried out in Limpopo Provincial Department of Public Works specifically focusing only on employees working at District cost centre level. A quantitative approach method was used. A simple random sampling method was used wherein each official at all Cost Centres were numbered in a sampling frame and then used random numbers to select the required sample. 241 (two hundred and forty one) employees were selected.

OPSOMMING

Die doel van die studie was om die bepaal of die werksomstandighede in die konstruksiebedryf die verspreiding van MIV/Vigs aanhelp.

Die studie is uitgevoer in die Limpopo provinsie van Suid-Afrika en wel binne die Departement van Openbare werke.

‘n Kwantitatiewe is vir die studie gevolg. Resultate van en aanbevelings vir verdere studies word gemaak.

DEFINATION OF CONCEPTS

The key concepts from which the study is built are as follows-:

‘HIV’ means Human Immunodeficiency Virus, a virus that weakens the body’s immune system, ultimately causing AIDS.

‘AIDS’ means Acquired Immunodeficiency Syndrome, a cluster of medical conditions, often referred to as opportunistic infections and cancers and for which, to date, there is no cure.

‘Employees’ means any person appointed in terms of the of the Public Service Act no 103, 1994

Construction work- work involving any erection, alterations of structures or buildings.

‘Excess employees’ means employees who were not placed in a defined post of a department.

‘Incidence’- the rate of new infections

‘Challenges’- in this context refers to circumstances that employees are facing and are aware of, but do not have the strength on their own to do away with them.

‘Working environments’ means a distance of more 150 KM from home to the workstation without means of transport to take workers home on daily basis, place without preventative measures and promotional materials e.g. condoms, place without facilities for extramural activities e.g. sporting activities, place not suitable for spouses to visit e.g. shared tin house or shack and tents and after hours boredom and etc.

ABBREVIATIONS

ADB	Asian Development Bank
AIDS	Acquired Immuno-Deficiency Syndrome
DPW	Department of Public Works
DMRC	Dehli Metro Rail Corporation
CIBD	Construction Industry Development Board
CSIR	Council for Scientific and Industrial Research
HIV	Human Immune-Deficiency Virus
IOM	International Organization for Migration

JBIC	Japan Bank for International Cooperation
ILO	International Labour Organization
NSP	National Strategic Plan
SADC	Southern African Development Community
SAMP	South African Migration Project
UNAIDS	United Nations Joint Programme on HIV/AIDS
WHO	World Health Organization

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CHAPTER 1: HIV/AIDS EPIDEMIC GLOBALLY, SUB-SAHARAN AFRICA, SOUTH AFRICA AND LIMPOPO.

1.1 Introduction

This chapter presents how HIV/AIDS has impacted negatively on the lives of individuals globally, in the sub-Saharan Africa, South Africa and specifically in Limpopo Province. The commitment by heads of states during the United Nations, from 25 to 27 June 2001, for the twenty –sixth special session of the General Assembly to review and address the problem of HIV/AIDS in all its aspect is also outlined.

1.2 HIV/AIDS Epidemic globally and in the Sub -Saharan Africa

The impact of HIV/AIDS is felt everywhere around the world. This is clearly outline by Van Niekerk AA and Kopelman LM. They outline that at the end of 2004 there was an estimation of 39.4 million people living with the virus. Of these, 4.9 million people were infected in 2004. An estimated 3.1 million people died of the disease in the past year.

(Van Niekerk AA, Kopelman LM; 2005)

Stirling indicated that since June 5, 1981, HIV, the virus that causes AIDS, has killed more than 25 million people, infected 40 million others and left a legacy of unspeakable loss, hardship, fear and despair. He goes on to identify factors which hastened its spread as ignorance, prejudice, denial and the freedoms of the sexual revolution.

The latest statistics published by UNAIDS/WHO in November 2007 outlines that there were 33.2 million people living with HIV/AIDS in 2007 worldwide and 2.5 million people newly infected with HIV whereas more than 25 million people have died of AIDS since 1981, (UNAIDS/WHO,2007). According to these stats, there is a decrease in the prevalence rate as compared to the 2004 statistics as outlined by Van Niekerk and Kopelman.

The heads of States and Government and representatives of States committed themselves when, assembled at the United Nations, from 25 to 27 June 2001, for the twenty –sixth special session of the General assembly, convened in accordance with resolution 55/13 of 3 November 2000, as a matter of urgency, to review and address the problem of HIV/AIDS in all its aspects, as well as to secure a global

commitment to enhancing coordination and intensification of national, regional and international efforts to combat it in a comprehensive manner. They were deeply concerned that the global HIV/AIDS epidemic, through its devastating scale and impact, constitute a global emergency and one of the most formidable challenges to human life and dignity, as well as to the effective enjoyment of human rights. This was seen as undermining social and economic development throughout the world and affects all levels of society-national, community, family and individual.

Amongst the entire continent, the sub-Saharan Africa is the worst affected by the epidemic. In 2004, 25.4 million people were living with HIV as compared to 24.4 in 2002. This is also seconded by Stirling in his speech when he said that the Sub-Saharan Africa has been devastating, and he warns that the next 25 years of AIDS promise to be deadlier than the next. He warned that according to projections by U.N populations researchers, AIDS could kill 31 million people in India and 1.8 million in China by 2025. By then it would have killed 100 million in Africa. He indicates that even if the new infection were to stop with immediate effect, the number of death cases in Africa alone would exceed 40 million.

http://www.livescience.com/health/ap_060604_aids_25_africa.html

The information that the sub-Saharan Africa is the worst hit hard by the epidemic is supported by the AIDS Foundation. They outlined that the epidemic is fuelled by the combination of factors that include poverty and social instabilities, high levels of sexual transmitted infections, the low status of women, sexual violence, high mobility (particularly migrant labour and lack of good governance. (AIDS Foundation,). In 2007, there were 69% of people living with HIV in sub-Saharan Africa

(UNAIDS/WHO; 2007)

From the above information it is clear that the epidemic has impacted negatively from one continent to another globally with the worst being the sub-Saharan Africa. The estimates have been going up since the discovery of the first incidence cases. However this has changed over the past year.

UNAIDS 2007 AIDS epidemic updates indicate that the HIV prevalence has levelled off globally as compared to the 2006 estimates which were 39.5 million. However, HIV is still amongst the leading causes of death globally. The number of people living with HIV is estimated at 33.2 million. The document credits the reduction of the estimates to UNAIDS and WHO methodologies of fighting the epidemic. In the very same year (2007) 2.5 million people became newly infected and 2.1 million died of AIDS.

(UNAIDS; 2007)

1.3 South Africa and Limpopo Province.

HIV and AIDS is one of the main challenges facing South Africa. In 2005

there were about 5.54 million people estimated to be living with HIV in South Africa (NSP,2007). HIV prevalence rose from about 0.5 percent in 1990 to over 27.9 percent in 2002.

(Van Niekerk AA, Kopelman LM; 2005)

The AIDS Foundation refers to South Africa having the sixth highest prevalence of HIV in the world, with 18.8% of the population estimated to be infected. The UNAIDS 2006 Global report, estimated that 320 000 people died of AIDS related deaths in South Africa during 2005. South Africa is regarded as having the most severe HIV epidemic in the world

The report continues to say that the number of new infection is still increasing with no sign of reaching a natural limit. The total number of South Africans living with the virus at the end of 2005, was estimated by UNAIDS to be in the region of 5.5 million. This annual survey uses a statistical model to estimate the prevalence of HIV in the population based on the prevalence among women tested at the state antenatal clinics. Provinces that are worst affected by the epidemic is Kwazulu-Natal at 39.1% (which continues to have the highest prevalence rate) followed by Mpumalanga at 34.8% (AIDS Foundation). In actual sense the prevalence and incidence rate could be even higher than the 5.5 million estimated by UNAIDS as the number is only based on women who attended the antenatal clinics.

The report by AIDS foundation paints a bleak picture in the sense that it went on to say that efforts to stem the tide of new infection in South Africa have some limited success, as behaviour change and social change are long- term processes, and that the factors that predisposes people to infection are e.g. poverty, illiteracy, and gender inequalities cannot be addressed in the short term.

<http://www.aids.org.za/hiv.htm>

The South African National Survey that was conducted 2005 outlined that among females; HIV prevalence is high in the age group between 25 and 29 years old. Amongst the peak, the peak is in the group aged 30-39 years. According to these results, males aged 15-49 years old are 58% likely to be infected as are females in the age group, which is 11.7% in men versus 20.2% in women. Although the prevalence rate has stabilized, the rate of infection is still increasing.

In Limpopo Province, the prevalence rate has been increasing year after year where in 2001 it was 14.5 and 21.1 in 2005. However, a slight change was observed in 2006 where it dropped from 21.5 to 20.7 in 2006.

<http://www.avert.org/safricastats.htm>

CHAPTER 2: BACKGROUND OF THE STUDY

2.1 Introduction.

This chapter present the background of the study. This includes the location of the institution (its people and their background before the redeployment process) under study, the redeployment process that took place in 2003 thus increasing the rate of migrant workers. Moving away from their respective district and family support, these workers were faced with challenges. The aims and objectives as well as the hypothesis are also discussed.

2.2 Background of the study

The Department of Public Works is situated in Polokwane, Limpopo Province. The core functions of the department are construction (government buildings e.g. schools, hospitals and etc) as well as the maintenance of this constructed works. The department also have a supporting system such as Human Resource Management, Information management, financial management and etc. Prior to 2004, employees of the department were located near their homes or next to their former homelands, wherein they were able to visit their families any time or as they wish. After 2004, the government introduced Resolution No 7 of 2002, called Framework Agreement: Transformation and Restructuring of the Public Service (Utilisation of Human Resources). The purpose of this framework was to align the staff establishment according to the strategies of individual departments in the public service. Each department was expected to-:

- Develop a strategic plan;
- Determine the organizational structure;
- Define the post necessary to perform its functions;
- Develop a human resource plan;

The department was to identify profiles who will meet the requirements of the defined posts. The individual employees whose profile met the requirement or corresponded to the defined post were placed accordingly. Those employees who were not placed in a defined post of a department were referred to as in excess in that department. This meant that these excess employees were to be redeployed to another district, which had their post matching their profiles within the same department or to another

department. The posts, which were not filled during this process, were to be advertised externally and in this fashion all posts were filled.

The DPW was no exception to these activities. The department had 3 810 employees of which large number are males between the ages 35 and 45. A large percentage of this figure is made up of labourers, plumbers, electricians etc, who during the working week live in camps provided by the department and go home to spend weekends with their families. This is only applicable to employees who are working not far from their homes. Employees were moved from one district to another with the minimum distance between their homes and workstation being +_100KM and the maximum of +_600KM. This meant that these employees (both men and women) could not often visit their families as they used to. If married they sought solace by having extramarital affairs and if not married, they had additional partners in areas next to work. Their low monthly salaries also contributed a lot, as they could not afford the transport fees to and from their homes. The DPW comprises of 5 district offices (Mopani, Waterberg, Vhembe, Sekhukhune and Capricorn) with the 6th being the Provincial Office (Head Office). Each district consists of between 4 to 5 cost centres (workstations) where there are shacks next to these workstations. The type of accommodation in these workstations does not allow them to stay with their families. Their worksite is located either near the community or in the middle of nowhere. These employees had to learn a new language e.g. Shangaan, Vhenda or Pedi for them to be able to communicate, let alone English. Though the majority of these employees are staying in groups, which are good for training purposes, they are still faced with the challenges of referring to the training manuals since they are unable to read or write. The nature of employee's job is such that they are always out in the field and communication with them is verbal.

One of the biggest challenges facing the Department in the beginning was that although employees knew about HIV/AIDS through the Employee Wellness Unit (handling Occupational health and Safety, HIV/AIDS, Employee Assistance programme and Social Wellness), it was difficult to convince most of them to take precautionary measures. This could be contributed to the fact that a large number of the employees are relatively matured (40-55), and were still influenced by myths.

This background contributed a lot to the spread of HIV/AIDS. The affected employees and their spouses were now bound to have casual sexual partners in order to fulfil the call of nature. Before the implementation of Resolution No 7 of 2002; the number of ill-health retirement and employees who have disclosed their HIV status was very low because employees were sleeping at home with their sexual partner. However this trend has changed after the above –mentioned resolution. During the departmental ill-health audit in all the workstations it was discovered that many employees were taking sick leave twice of trice a month, the number of those taking ill-health retirement had increased as well as the number of employees who died due to HIV/AIDS related illness, and the number of employee who have disclosed their HIV+ status has gone to 120 in the department. Employees indulged in alcohol to compensate time away from home. This symbolises that there are lot of employees who might be positive but are afraid to disclose.

Although the Employee Wellness Unit has tried to disseminate HIV/AIDS related information to all employees through awareness and education (following the Health

Calendar events, Peer Education and other means), the rate of incidence has not decreased.

In 2006, the Department introduced a Social Wellness as a sub-programme under Employee Wellness Unit. The purpose of this sub-programme was to ensure that employees in the department engage in physical wellness exercises to enhance their well being to ensure that goals and objectives of the department are achieved in a friendly environment. A policy was developed and approved. The policy covers a broad range of sports and cultural issues and also includes unforeseen circumstances such as death of an employee or a close family member, birthdays and farewells. Initially, employees working at cost centre level were using tin houses as their accommodation. However, during the financial years 2002/03 to 2006/07, the department managed to erect 916 proper houses for these employees. In 2004, the Premier of the Province (Limpopo) announced the reconfiguration of the Provincial Department and the transfer of the roads function to the department of Public Transport in terms of section 3A of the Public Service Act, 1994 (as amended). A total number of 2 844 staff in the Roads Programme were identified and transferred. The majority of the people were those staying in cost centres. Prior to the Premier's announcement, the department built 916 proper houses (with decent walls, roof, windows etc) for employees at cost centres. Some of these houses were designed to accommodate 3 employees (each one having his or her own room) making them to occupy one structure/dwelling in groups whereas some were only accommodating one employee per structure/dwelling. After the announcement, these employees were not evacuated from these dwellings. The number of employees who were allocated with these houses was 1 341. This implies that the majority of the employees of the Department are still staying in tin houses.

2.3 Aims and objectives of the study.

2.3.1 Aim

This study sought to identify the working environment that construction employees face. This will be followed by determining whether there is a relationship between these working environments and the increase in the spread of HIV.

In this case the working environments that contribute to high rate of HIV incidence can be defined as any of the following-:

- A distance of more 150 KM from home to the workstation without means of transport to take workers home on daily basis.
- Place without preventative measures and promotional materials e.g. condoms
- Place without facilities for extramural activities e.g. sporting activities.
- Place not suitable for spouses to visit e.g. shared tin house or shack and tents.
- After hours boredom and etc.

The study focused on all employees at cost centre level. Due to the similarities of the working environments that employees are exposed to in all the cost centres, the study excluded one district (Sekhukhune)

2.3.2 Objectives

Objectives of the study

- i. To identify the working environment that construction workers are exposed to.
- ii. To determine whether or not this working condition contributes to the spread of HIV; and
- iii. Develop control measure that can mitigate the spread.

2.4 Hypothesis.

There are working environments that the construction workers are exposed to whilst on construction sites and the same contributes to the high rate of HIV incidences.

CHAPTER 3: LITERATURE REVIEW

3.1 Introduction

This chapter present an overview of literature relevant to the study. Since the aim of this study is to identify the working environment that construction employees face followed by determining whether there is a relationship between these working environments and the increase in the spread of HIV, Linkages between the variable(independent and dependent) are discussed.

3.2 Overview of construction workers and HIV/AIDS.

Any construction or development activity, which may induce migration of people, has the potential to increase the spread of disease, in this case, one of the most important being HIV/AIDS. Induced migration as well as the movement of contractor construction workers from elsewhere in the country can potentially increase the spread of HIV/AIDS. Construction camps are renowned for activities such as prostitution and varying levels of promiscuity. This could lead to scenarios where an infected construction worker coming into the area spreads the disease through unprotected intercourse with sex trade workers or local individuals, who, in turn, will spread it locally. Alternatively, an uninfected construction worker could become infected through unprotected intercourse and on return to his/her place of origin spread the disease there.

The negative impact of construction activities in contributing to the increase spread of HIV/AIDS is of high significance in the absence of mitigation

(CSIR, 2002, Pg14-17)

The IOM stated that in 2005, there were approximately 191 million migrant globally, a figure that has more doubled since 1960, which constitutes almost 3% of the world population. The movement of migrants can be seen for a few days or months, or for many years. Historically, some of the major causes of migration in southern Africa include poverty, conflict, war and the apartheid policies of separate development and exclusion. Because of the often undocumented nature of many migrants and mobile workers there has been a lack of research into these groups. However large, labour-intensive sectors tend to employ both internal and mobile workers. Sectors or type of work that employ high numbers of mobile and migrant workers in southern Africa are: Mining, Commercial Agriculture,

Transport, Construction, Domestic Work, Military and Uninformed Services, Informal Cross-Boarder Trade Fisheries and Sex Work.

(IOM, Briefing Note)

Research conducted by construction stakeholders and the South African Department of Public Works (DPW) indicates that the industry has the third highest HIV incidence among economic sectors in South Africa. If allowed to persist, this situation will negatively affect the South African economy, as productivity decreases and the costs of replacing and retraining workers arise (IOM and National department of Public Works). The construction industries are at risk because of the migratory labour force that is poorly educated and have poorly socio-economic conditions.

CIDB indicated that HIV/AIDS runs rampant among South African construction workers largely because the labour force is migratory; construction camps are a breeding ground for the spread of the pandemic and sexually-transmitted disease; and workers on contract generally disregard the consequences of casual sexual relationships.

http://www.powergrp.co.za/press_releases/press_mar06.htm

In their specification for HIV/AIDS awareness, the CIDB designed strategies to build an HIV resilient workforce as well as communities associated the workforce i.e. communities that are able to draw on its own capacity to prevent further transmission of HIV, minimise the impact of the HIV/AIDS epidemic, and talk about HIV/AIDS.

In his response to “How bad is it”, referring to the epidemic Theo Haupt, research co-ordinator in the Southern Africa Built Environment Research Centre at the Cape Peninsula University of technology said that the HIV/AIDS pandemic in South Africa is threatening to reduce the overall construction labour force, shift the age structure of the work force due to increased eventual mortality of HIV-infected workers and change the skill composition of the construction labour supply. He went on to say that it is already under pressure due to skills shortages in the artisan and management categories of employment, and results in increased labour turnover.

http://www.powergrp.co.za/press_releases/press_mar06.htm

According to the IOM, construction sector is important in the Southern African region both in terms of employment creation and its construction to the economy. It accounted from between 2 to 6 percent of the GDP in SADC member states in 2002/2003. At the same time, employment in the construction sector represents from 3 to 10 percent of the total employment in the SADC member of states. Given that much employment in this sector is organised through casual contracts and subcontracting, actual employment is likely to be greater than that reflected in the official statistics. The IOM also outlines that few studies have looked

specifically at HIV prevalence and/or vulnerability in the construction sector, high HIV prevalence rates have been reported in and around construction sites.

http://iom.org.za/site/index.php?option=com_content&task=view&id=100&Itemid=104

Extended or repeated overnight travel away from home and community is associated with HIV infection. This travel also includes job-related mobility. It creates an imbalance in the ratio of women to men, which facilitates the sharing of sex partners.

<http://www.fhi.org/NR/Shared/enFHI/PrinterFriendly.asp>

This means that there is a high probability that both partner will have casual sex partners during their separation, more especially in a case where either the husband or wife go away for a long period, the places they pass through and their behaviour as they travel, their destination the period of separation as well as the previous movements play a major role in contracting or spreading the disease. Women who stay back at home to raise the children on the other hand will look for a casual sex partner amongst the men who are working around the area. Because of the long distances, partners are vulnerable to change their behaviour and indulge in risk-taking behaviours such as alcohol abuse and unsafe sex practices.

Mobility also increases vulnerability as women move to places where opportunities arise, these includes construction sites, mines, truckers, sailors fishermen and etc where large groups of men with money can be found, this also create wide networks for the spread of HIV.

Construction work is characterised by relatively short-term work on a variety of sites. By removing workers from their families and support systems for extended periods of time, this nomadic” on- site” lifestyle increases their vulnerability to HIV Infections. Often living in all-male housing in isolated areas that offers little diversion or recreation, workers are more likely to indulge in risk-taking behaviour such as alcohol abuse and unsafe casual sex.

(UNAIDS; 2003).

HIV/Aids runs rampant among South African construction workers largely because the labour force is migratory; construction camps are a breeding ground for the spread of the pandemic and sexually-transmitted diseases; and workers on contract generally disregard the consequences of casual sexual relationships, according to the Construction Industry Development Board (CIDB).

This being the case, the construction sector could be heading for a fall. How hard could it hit the ground?

<http://www.powergrp.co.za>

The IOM also reveals that few studies have looked specifically at HIV prevalence and/or vulnerability in the construction sector, high HIV prevalence rates have been reported in and around construction sites.

The Southern African Migration Project (SAMP) reveals migration as one of many social factors that have contributed to the AIDS epidemic. Previous studies have shown that people who are more mobile, or who have recently changed residence, tend to be at higher risk of HIV infection than people in more stable living arrangements. In a South African study, people who had recently changed their residence were three times more likely to be infected with HIV than those who had not. SAMP also reveals that it is not so much movements that count, but the social and economic conditions that characterize migration processes that puts people at risk for HIV. The role of migration in the spread of HIV to rural Africa has conventionally been seen as a function of men becoming infected while they are away from home, an infecting their wives or regular partners when they return.

SAMP commissioned a study that sought to investigate the rates of HIV infection in migrant and non-migrant couples in order to understand the risk factors and transmission dynamics of the epidemic in South Africa. One of the findings of the study was that the prevalence of HIV among migrants and their partners was, however, significantly higher than among non-migrants and their partners (24, 0 per cent versus 15,0 per cent, respectively). The study also showed that migrant men were significantly more likely than non-migrant men to have casual sexual partners and to be HIV positive. More men than expected reported having no casual partners which may indicate underreporting, or that casual relationships are of a short duration.

(The Southern African Migration Project, 2004).

Dickinson D and Versteeg M outlines that there is hard evidence on how prevalent HIV/AIDS is within the construction industry. Estimates of how many workers are infected are based largely on guesswork and anecdote evidence. This therefore means that there are risk factors associated with the construction industry that are likely to increase HIV prevalence rates.

While HIV/AIDS affect all industries, the construction sector faces additional risks due to the project nature of the work that requires a continuous migration of the labour force between sites and homes. In practice, this means that most permanent employees stay away from their families for long periods of time, with leave restricted, during jobs, to one long weekend a month. The once -a- month weekends have advantages given the long distance to be travelled by workers and in maintaining production. However, there are also implications for HIV/AIDS resulting from the patterns of migration established. With only one long weekend off per month, workers spend long periods at sites where they usually stay in single sex accommodation with few recreational facilities. Migrant workers are rich compared to the often impoverished surrounding communities, with money to spend on alcohol and local sex workers, activities that put them at high risk of infection of HIV and other STDs.

When employees return to their homes over the long weekends they act as a potential ‘bridging group’ transferring the HI virus between sex workers and casual partners or ‘girlfriends’ in one part of the country and their spouses and partners in other areas.

(Dickinson D and Versteeg M, 2004)

In Malawi, road construction has been linked to the spread of HIV, while in Lesotho, the Highland Water Project (Katse Dam) has contributed to an increase in STIs in the remote mountain areas. Some resources have indicated that the construction industry in South Africa has the third highest HIV incidence of the economic sectors in the country, after the mining and transport sectors. Again IOM like the UNAIDS indicated that the nomadic “on-site” lifestyle of construction workers can heighten their vulnerability to HIV and AIDS. Living on-site in remote areas with few recreational facilities and away from families and support system, they are more likely to engage in risky sexual behaviours as a relief from boredom and loneliness. On a structural level, there is also limited policy development on HIV in the construction sector. This increase the risk of construction workers as it means there are few HIV interventions aimed at them.

(UNAIDS; 2003).

During the XVI International AIDS Conference that was held in Toronto in August 13th-18th 2006, the development institutions from across the globe announced that they have come together on a “Joint Initiative by Development Agencies for the Infrastructure Sector to Mitigate the Spread of HIV/AIDS. It was outlined during the conference that fighting the spread of HIV/AIDS is a multi-sectoral challenge which will be helped greatly by increased coordination in infrastructure programs. The conference outlined that there is strong evidence that links, for example, transport routes and construction sites to the spread of HIV, with employees at high risk of infection because of increased mobility and the lengthy stay away from home.

In a joint statement to address the epidemic, the signatory agencies confirmed: “We six development agencies consisting of the African Development Bank (AfDB), ADB, UK Department for international Development (DFID), Japan Bank for International Cooperation (JBIC), KfW Entwicklungsbank (KfW development bank), and the World Bank have recognised the urgency for action in the infrastructure sectors to tackle the global HIV/AIDS crisis.” There have also been strong expressions of endorsement from further bilateral and multilateral funding agencies which will be welcome to join the initiative. According to the statement, in view of the success in their respective organizations of funding in sectors which include transport, energy, water, urban and rural development, the Development Agencies propose to “coordinate their activities in order to mainstream HIV/AIDS prevention and treatment programs in infrastructure sectors, to reduce the impacts of the disease as a result of infrastructure interventions, to take opportunities for implementing further countermeasures and to contribute to strengthening the HIV/AIDS strategies of partner countries.”

The agencies emphasized that they endorsed the ILO Code of Practice for addressing HIV/AIDS which sets out fundamental principles for policy development and practical guidelines for action in the world of work. They are encouraging partner countries to “incorporate HIV/AIDS programme into infrastructure support, especially where this involves (i) large scale construction projects which mobilize many construction workers, service providers and communities who could be vulnerable to HIV/AIDS, or (ii) increased transport activity which may facilitate the spread of HIV infection.” In pitting this statement into action, the agencies agreed to share good practices in infrastructure, which will reinforce national strategies for combating HIV/AIDS; cooperation amongst all relevant constituencies, joint assessment of key interventions; and expanding the initiatives to other projects funded by domestic or external sources.

This initiative aim to address HIV/AIDS globally, though the impact is currently most acute in Sub-Saharan Africa, which has over 10 percent of the world’s population but is home to more than 60 percent of all people living with HIV- with about 25, 4 million people living with HIV at the end of 2004 and a prevalence rate at around 7.4 percent for the entire region.

The conditions for HIV infection in construction and transport sectors were identified as follows-:

- Condoms not used/low knowledge of their efficacy
- Duration of time away from home and family
- Boredom and opportunities with multiple partners
- Lack of working conditions and low wages
- Unsatisfactory relations with employers.

<http://www.adb.org/media/printer.asp?articleID=10438>

The ADB’s report is confirmed by the study that was conducted by the Voluntary Health Association of India at the Dehli Metro Rail Corporation (DMRC) Limited commissioned by JBIC. The study was in accordance with its guidelines for approving loans and investments, to assess the vulnerability to HIV of the workforce on one line of phase 1 of the Dehli Metro Project (VHAI 2003). The study highlighted that these workers faces conditions that can encourage high-risk sexual behaviour: separation from family, alienation from socio-cultural norms, loneliness, and a sense of anonymity that offers greater sexual freedom. In addition, the workers are uneducated, live in unhygienic, often crowded quarters, and are unaware of safe healthy practices. All these factors increase their vulnerability to communicable diseases such as tuberculosis and also to HIV.

(JBIC, Case Study: DMRC, 2003)

3.3 Conclusion.

According to the IOM, construction sector is important in the Southern Africa both in terms of employment creation and its construction to the economy. However, from the literature above, it can be concluded that although few

studies have been conducted with regard to the HIV prevalence in the construction sectors, all the quoted statements are in agreement that there is a high prevalent rate of HIV in the construction sector or industry. UNAIDS outlined that one of the reasons that lead to workers' vulnerability to HIV is removing them away from their families and support systems for a period of time thus exposing them to risky-taking behaviours that can lead to contracting HI virus and other infections.

The literatures also highlight the period that these workers spend away from their homes and the type of accommodation that they use whilst at the worksites as contributing factors to contracting the virus, which in turn would be passed on to their spouses or partners whenever they visit their families.

CHAPTER 4: HIV MODE OF TRANSMISSION AND CONDOMS

4.1 Introduction

This chapter present the mode of HIV transmission and factors that do not facilitate the transmission. Activities that put a person at risk of getting infected as well as the step- by- step of how to utilize both male and female condoms are discussed.

4.2 HIV Transmission.

4.2.1 Mode of HIV Transmission

HIV is spread by direct contact with infected body fluids, including blood, semen, vaginal secretions and breast milk. This means that HIV contained in one of these fluids must get into the bloodstream by direct entry into a vein, a break in the skin or through mucus linings, such as the eyes, mouth, nose, vagina, rectum or penis. Other body fluids such as urine, saliva, vomit, etc., do not pose a risk unless visible blood is present.

HIV is not easily transmissible. Unlike most viral infections colds, flu, measles, etc. HIV is not transmitted through sneezing, coughing, eating or drinking from common utensils or merely being around a person with HIV infection. HIV is not transmitted through air, water, food or casual contact such as handshaking, hugging, or use of restrooms and drinking fountains

http://www.albany.edu/sph/AIDS/aids101_2.html

4.2.2 Activities which puts a person at risk of getting infected

Activities which puts a person at risk of getting infected with HIV are:-

Having unprotected anal oral or vaginal sex (not correctly using a latex condom or dental dam) with a person who has HIV or whose HIV status is unknown;

Sharing injection drug needles or “works” with a person who has HIV or whose status is unknown.

4.3 Condoms

4.3.1 How to use a female condom?

- Open the Female condom package carefully; tear at the notch on the top right of the package. Do not use scissors or a knife to open.
- The outer ring covers the area around the opening of the vagina. The inner ring is used for insertion and to help hold the sheath in place during intercourse.
- While holding the Female condom at the closed end, grasp the flexible inner ring and squeeze it with the thumb and second or middle finger so it becomes long and narrow.
- Choose a position that is comfortable for insertion – squat, raise one leg, sit or lie down.
- Gently insert the inner ring into the vagina. Feel the inner ring go up and move into place.
- Place, the index finger on the inside of the condom, and push the inner ring up as far as it will go. Be sure the sheath is not twisted. The outer ring should remain on the outside of the vagina.
- The female condom is now in place and ready for use with your partner.
- When you are ready, gently guide your partner’s penis into the condom's opening with your hand to make sure that it enters properly – be sure that the penis is not entering on the side, between the sheath and the vaginal wall.
- To remove the Female condom, twist the outer ring and gently pull the condom out.
- Wrap the condom in the package or in tissue, and throw it in the garbage. Do not put it into the toilet.

(<http://www.ripnroll.com/femalecondoms.htm>)

4.3.2 How to use a male condom.

- Buy a package of lubricated latex condoms, in the appropriate size at your local pharmacy. Make note of the expiration date.
- As soon as the penis is hard, open the package and squeeze the tip of the condom to remove the excess air inside. Look for damage and use another condom if damage is detected or the condom is dry.

- Put the open end of the condom on the head of the penis.
- Roll the condom down the shaft of the penis until it fits comfortably. The condom should extend almost to the base of penis and have a smooth fit. Leave space at the tip of the condom for semen.
- After ejaculation, the man should hold the condom secure while withdrawing his penis from the vagina to help prevent the condom from coming off or spilling. Never use the same condom twice.
- Once out of the vagina the condom can be removed and disposed of. The penis should be washed to prevent any semen from inadvertently making its way back into the vagina.

[http://www.womenshealth.about.com](http://www.womenshealth.about.com/cs/birthcontrol/ht/malecondom.htm) cs/birthcontrol/ht/malecondom.htm

CHAPTER 5: RESEARCH METHODOLOGY

5.1 Introduction

This chapter outlines an overview of the methodology used in this quantitative study. The research approach which covers the population from which the sample was drawn, sampling method, data collection and analysis as well as the research ethics is discussed.

5.2 Research approach

The study used the quantitative approach in the sense that the researcher obtained the data from the respondents by administering a questionnaire.

5.2.1 The survey methodology.

Christensen describes a survey as a widely used field in which an interview technique is used to gather data on a given state of affairs in a representative sample of the population. This method will be incorporated with a correlational study in the sense that the study will seek to identify the working conditions that these employees are exposed to and thereafter determine if these conditions are the contributory factors to the high rate of HIV or not. Although a correlation design does not make any attempt to manipulate the variable of concerns.

(Christensen; 2007, 51).

The study consisted of the group which is staying in camps exposed to one of the above environments e.g. A distance of more than 150 KM from home to the workstation.

5.2.2 Population

The total population of the Department of Public Works at the Cost Centre level is 1 976. Out of this number,

- 638 employees at Mopani Cost Centres(Giyani, Tzaneen, Sekgosese,

- Napuno and Phalaborwa).
- 710 employees at Vhembe Cost Centres (Mutale, Makhado, Malamulele, Thohoyandou).
 - 331 employees at Capricorn Cost Centres (Senoabarwana, Mankweng, Polokwane and Matoks).
 - 297 employees at Waterberg Cost Centres (Lephalale, Modimolle, Mokopani, Thabazimbi and Backenberg).

The research focused on all employees of all different ranks, age and sex.

5.2.3 Sampling method

In this case the intended population from which the sample was drawn is from the employees of the Department of Public Works, Limpopo Province. The study sample was from the group which is exposed to any of the environment mentioned under Section B item 1 above and are staying in camps or cost centres. Randomization was used as a control technique. Christensen describe randomisation as the most important and basic of all the control methods, it is a statistical control technique designed to assure that extraneous variables, known or unknown, will not systematically bias the study results

(Christensen; 2007, 264).

The researcher used a Simple Random Sampling in order to ensure that all elements (employees) have an equal and independent chance of being chosen as stated by William Schofield

(Sapsford R, Jupp V, 30)

In this case the department have 05 district offices, which all have camps or cost centres. A list of the whole population at cost centre level was obtained.

A simple random sampling method was used as a sampling tool. All employees were grouped together and given numbers from 1 to 1 976. Each 7th employee was then selected from the sampling frame until a desirable number was reached. 241 employees were selected.

All the 241 participants in the study were employees of the Department and stationed at cost centre level thus affected by one or more of the working environments. The participants were all above the age of 18 years of age or older and could decide for themselves if they wanted to participate in the study.

5.3 Data collection and analysis

In this study, the research approach was quantitative in nature. A highly structured method was used for collecting data.

Sapsford R and Jupp V outlines that there are two main structured forms of asking questions: the interview schedule and the self –administered questionnaires. He went on to say that they both share the need for questions to be unambiguous and easy to read, so that what he or she is supposed to do is entirely clear to the interviewer and /or respondent.

(Sapsford R and Jupp V, 2006, 97)

The researcher developed a questionnaire as a data collection tool. In order to facilitate understanding by respondents, the aims and objectives of the study was outlined on the front page of the questionnaire. The questionnaire was pilot tested in at the Department of Public Works; Limpopo Province. In order to align the objectives of the study with its findings, the researcher focused on the population from four districts at cost centre level (Giyani, Tzaneen, Sekgosese, Napuno and Phalaborwa Mutale, Makhado, Malamulele, Thohoyandou. Senoabarwana, Mankweng, Polokwane and Matoks Lephallale, Modimolle, Mokopani, Thabazimbi and Backenberg).

Prior to conducting the study, the researcher obtained permission from the management. The researcher obtained the sampling frame (list of all employees in the department at cost centre level per districts) from Human Resource Directorate at the Provincial Office. The total number of employees at the four districts were 1 976. The researcher used a simple random sampling wherein every 7th person from the sampling frame was selected. In order to obtain a more desirable data, the researched decided to sample 12% of the entire population and 241 respondents were sampled and identified to participate in the study.

The researcher then forwarded the list of selected respondents to the relevant districts and cost centres informing them about the study which included the objectives, list of respondents selected and the time schedule. Data was then collected as per the time agreed upon with the management of both the districts and cost centre managers concerned. The following table contains the number of respondents as per their cost centres.

	Name of Cost Centre	Number of Participants
1.	Giyani	15
2.	Tzaneen,	15
3.	Sekgosese	18
4.	Napuno	12
5.	Phalaborwa	18
6.	Mutale	20
7.	Makhado	20
8.	Malamulele	20
9.	Thohoyandou	26
10.	Senoabarwana	10
11.	Mankweng	10
12.	Polokwane	10
13.	Matoks	10

14.	Lephalale	8
13.	Modimolle	6
15.	Mokopani	8
16.	Thabazimbi	9
17.	Backenberg	6

The questionnaire was administered over a period of thirty (30) days wherein 241 questionnaires were distributed to the respondents.

The researcher was available at some of the cost centres where data was first collected to assist the respondents in case they experienced problems in completing the questionnaires. However did not go to the cost centres where data was collected latter as all the respondents who completed first did not experience problems in completing the questionnaire. The independent variable was the working environment and the dependent variable was the high rate if HIV incidence.

The questionnaires were translated into Tshivenda, Shangaan and Sepedi since most of the respondents could not read and understand English. The data was collected between 01- 30 September 2008. This was so due to the distance between the cost centres. Data was analysed through Microsoft Office Excel 2003.

5.4 Research questions

In order to discover whether or not the identified working environments that construction workers are exposed to were contributing to the high rate of HIV, the following (17) research questions were used to guide this study:

Research question 1: Residence in kilometres from works station

Research question 2: Choose the type of accommodation you use when at work from the ones listed below.

- a) Tents
- b) Tin housed/shack
- c) Standard house(with decent walls, roof, windows etc)

Research question 3: In this type of accommodation, do you stay (choose one below)

- a) Alone
- b) In groups

Research question 4: To what extent does this accommodation offer you privacy?

- a) To a great extent,
- b) To a less extent) ,
- c) Not at all
- d) None of the above

Research question 5: Do you go home (choose from the answers below).
a) Frequently (Daily to once- a- month),
b) Not frequently (once in 2 months -1yr).

Research question 6: Does your spouse/partner visit you?
a) Regularly
b) Not regularly.

Research question 7: If the answer to question 6 is not regularly, what are the reasons?
a) Take care of the children
b) Distance
c) There is no privacy.

Research question 8: When your spouse visits you, do you feel comfortable to engage in sexual activities?
a) Yes
b) No
c) No response

Research question 9: If your answer to question 8 is no, what are the reasons?
a) No privacy
b) No response

Research question 10: Do you have sexual partners apart from your spouse?
a) Yes b) No

Research question 11: Do you drink alcohol? a) Yes b) No

Research question 12: Do you use drugs? a) Yes b) No

Research question 13: Do you participate in any sporting code after hours and weekends? a) Yes b) No

Research question 14: How frequently do you engage in sexual activities? Circle the correct answer a) Less frequently b) More frequently
a) Not at all

Research question 15: Do you have access to condoms? a) Yes b) No

Research question 16: Do you use condoms (either male or female) a) Yes b) No

Research question 17: Do you know how to use a condom? a) Yes b) No

5.5 Ethical consideration

Christensen refers to research ethics as a set of guidelines to assist the experimenter in conducting ethical research (Christensen; 2007, 28).

The following principles were followed-:

5.5.1 Management of consent.

The researcher requested permission from the management of Public Works to conduct research. This was done through a formal written document which outlined the objectives and nature of the study to be conducted.

5.5.2 Respect for persons and their autonomy

Christensen outlines that this can be achieved when the prospective research participants has the right to choose to participate in a research study and denial of this sows a lack of respect for that person (Christensen; 2007, 141). Respondents who were not interested in participating in the study were afforded an opportunity to quit.

Christensen defines informed consent as a process of fully informing the research participants about all aspects of the study, Christensen (, 2007). Before the researcher can start with the study, she will outline what the study is all about, its objectives and intentions, steps to be undertaken, its advantages and disadvantages. Participants were informed about the objectives of the study and were given a chance to indicate whether they still want to proceed with the study or not.

After outlining the pros and cons of the study, participants gave consent indicating their willingness/unwillingness to proceed with the study. Participants who decided to terminate their participation into the study were allowed to do so without any threats or any form of victimization as a way of showing respect towards their decisions.

5.5.3. Beneficence and Nonmaleficence

Christensen defines beneficence as doing good and nonmaleficence as doing no harm. (Christensen; 2007, 42). He further went on to say that this principle states that a researcher must design and conduct research studies in a way that minimizes the probability of harm to the participant and maximizes the probability that the participants receive some benefits.

It was the responsibility of the researcher to ensure participants are not harmed at all during the study.

5.5.4 Confidentiality, Anonymity and the Concept of Privacy.

Christensen define confidentiality as an agreement with research investigators about what may be done with the information obtained , although known to the research group, will not be revealed to anyone other than the researcher. Anonymity refers to keeping the identity of the research participants unknown. Privacy refers to

controlling other people's access to information about a person (Christensen 2007; 162-163).

The researcher guaranteed the confidentiality of the information obtained from the participants. The data collection process was designed in such a way that the researcher could not link the completed questionnaire to any of the respondents. Respondents were requested not to fill in their personal details e.g. Name, Identity number, Persal number or name of workstation. This method was selected to protect the privacy of participants.

CHAPTER 6: PRESENTATION, ANALYSIS AND INTERPRETATION OF THE FINDINGS

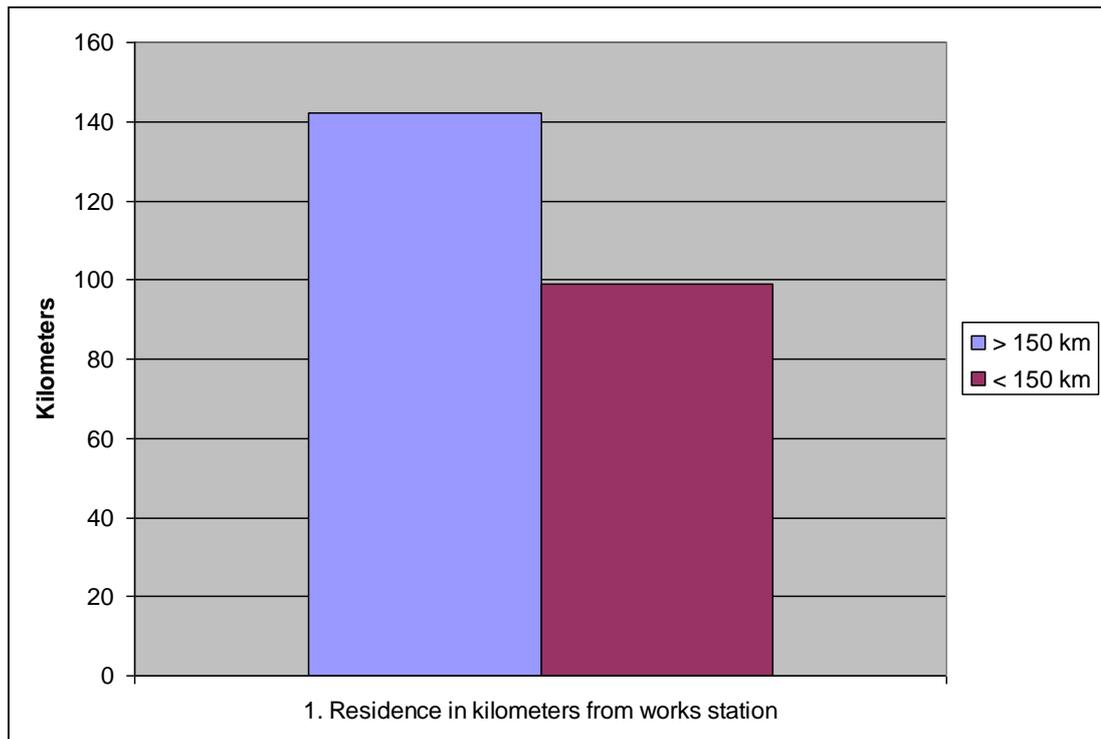
6.1 Introduction

This chapter focuses on the findings, analysis and interpretation of the study. The findings of the research are presented by describing the conditions that construction workers are exposed to. The study was conducted at the Department of Public Works; Limpopo Province. A suitable and convenient sampling method was utilized in order to obtain a simple random sample of 12 % (241) employees at cost centre level in 4 districts (Mopani, Capricorn, Waterberg and Vhembe). All sampled employees agreed to participate in the study and there was no withdrawals during the entire process and this implies that the rate of participation was 100%.

The research methodology is briefly outlined, followed by the discussion of the research findings, which is presented according to the numbering in the questionnaire. The aim and objectives of the research was to (i) to identify the working environment that construction workers are exposed to, (ii) to determine whether or not this working condition contributes to the spread of HIV; and (iii) To develop control measure that can mitigate the spread.

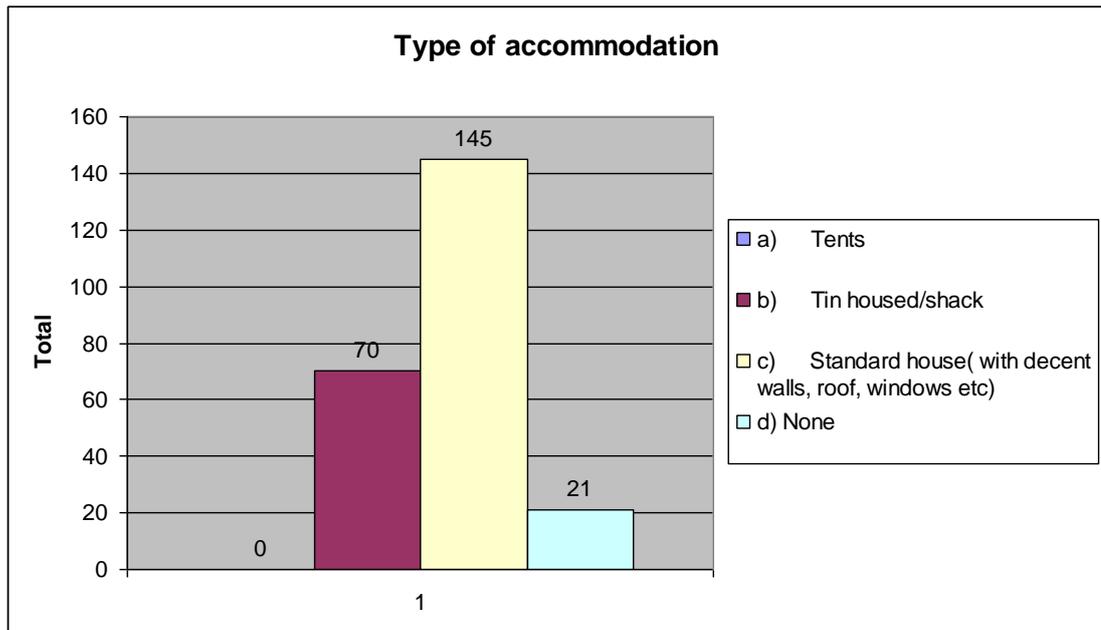
6.2 Research findings

Histogram 1: Kilometres distribution of respondents



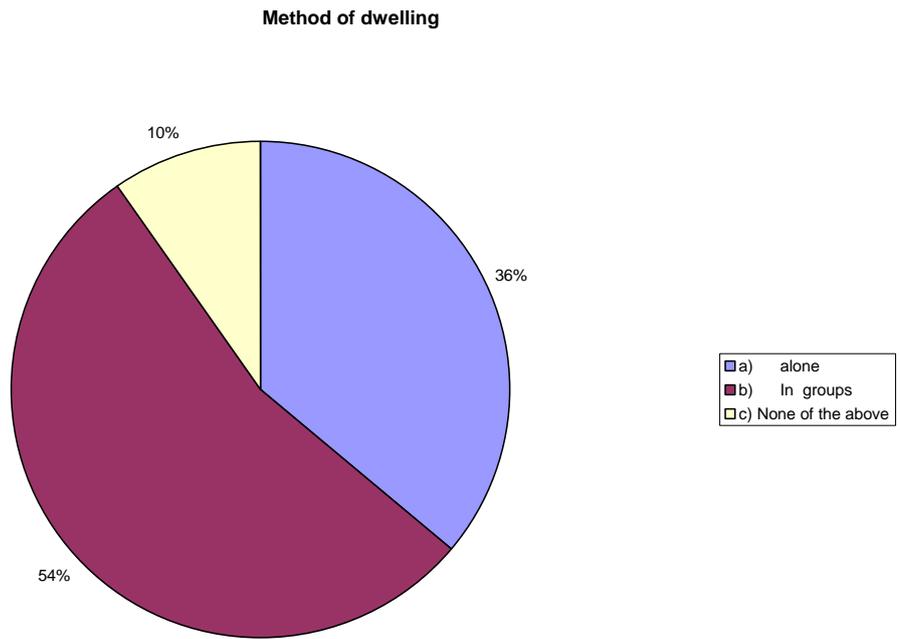
Histogram 1 depicts that the majority (142 or 58, 9%) of respondents were from an area less than 150Km from their workstations. These employees are the employees who will manage to go home on daily basis and during weekends. The graph also illustrates that about 41% (99) of the respondents lives more than 150Km away from their workstations. The researcher is of the opinion that although the majority of the respondents come from an area less than 150Km from their workstations, there is still 41% which comes from an area more than 150Km. This support the statement said during the XVI International AIDS Conference that was held in Toronto in August 13th-18th 2006, the development institutions from across the globe. The conference outlined that there is strong evidence that links, for example, transport routes and construction sites to the spread of HIV, with employees at high risk of infection because of increased mobility and the lengthy stay away from home.

Histogram 2: Type of accommodation



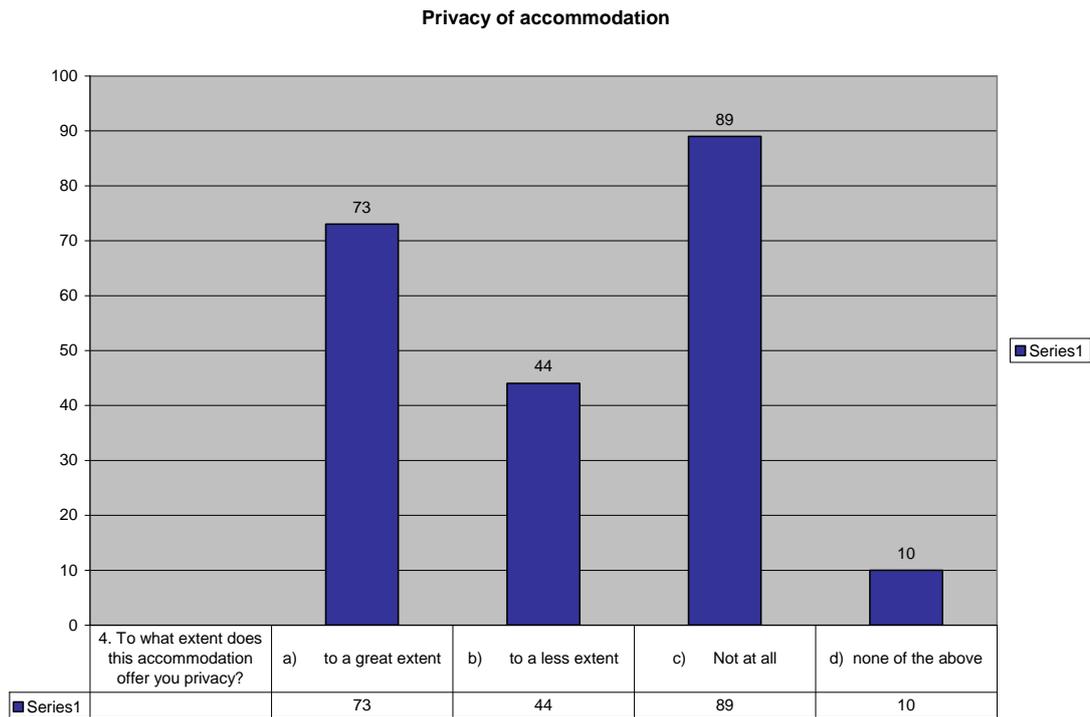
Histogram 2 illustrates that 0 (0%) respondents were using tents, 70 (21%) using tin houses/shack, 145(60%) standards houses (with decent walls, roof, windows etc) and 21 (8.7 %) do not stay in any of the above (tents, tin or standard houses). The researcher is of the opinion that the 8,7% respondents choose 'none' are the ones who travels between their workstation and homes on daily basis.

Pie chart 1: Arrangements of accommodation



Pie Chart 1 illustrates the method or arrangement of dwelling wherein 54 % (117) were staying in groups, 36 % (78) alone and 10 % (21) whom the above were not applicable.

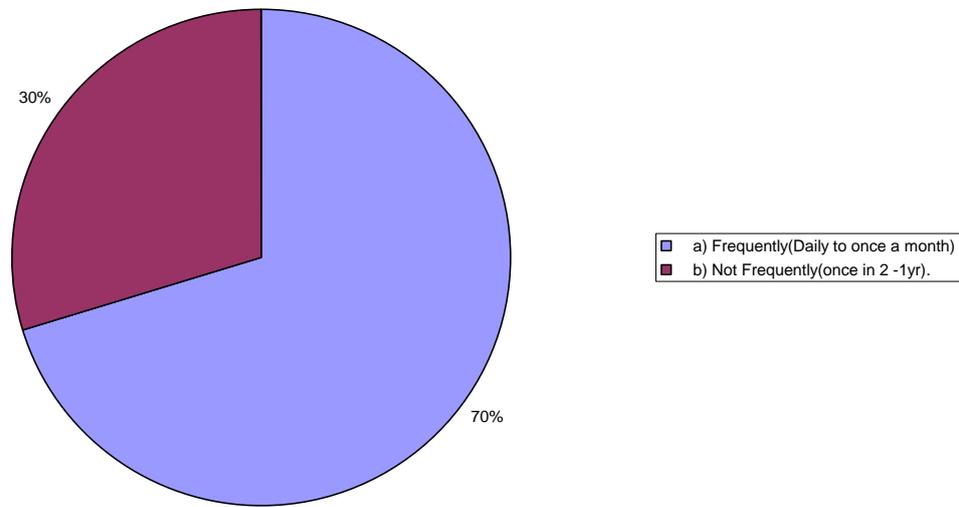
Histogram 3: Privacy of accommodation



Histogram 3 shows the respondents’ responses on privacy of the type of accommodation that they were using. The majority or 89(36.9%) of respondents showed that the type of accommodation they used did not offer privacy at all, 73 or 30% showed that it offered privacy to a great extent and 44 or 18% to a less extent and 10 or 0.41% which is not catered in this category. The researcher is of the opinion that the type of accommodation used by these employees, more especially those staying in the tin or shack houses does not offer privacy at all as depicted by the graph. It can be deduced that the 73 respondents who indicated that it offers privacy to a great extent are those who are occupying proper houses.

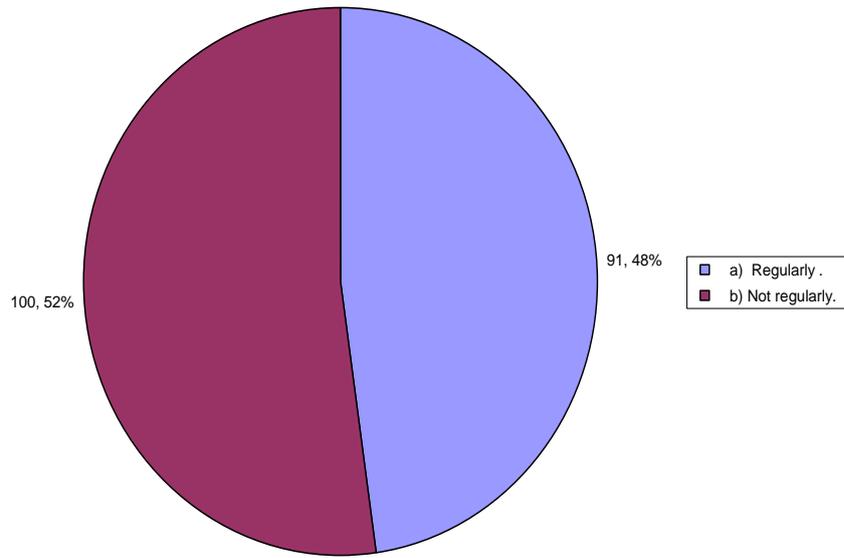
Pie chart 2: Frequency to visit home

Frequency to visit home

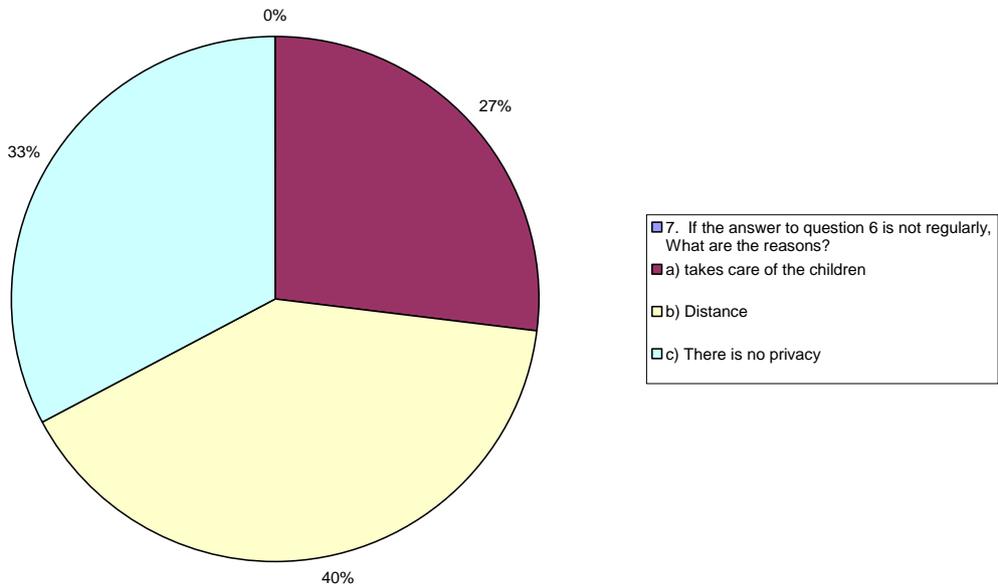


Pie chart 2 shows that 70% of the respondents visit their families frequently (daily to once- a -month). These are the respondents who are local or whose families are situated less than 150 KMs away from their workstations. About 30 % do not frequently (once in 2 months -1yr) probably because their families are more than 150Kms from their workstations. The latter represents employees whom according to Dickson D and Versteeg, stay away from their families for long periods with leave restricted, during jobs, to one long-weekend a month (Dickson D and Versteeg, 2004)

Pie chart 2: Visit by spouse



Pie chart 4: Reasons for spouse not visiting



Pie charts 3 denotes that 91(48%) respondents had their spouses regularly (once a week to once a month) paying them visits at their workstations. The same chart shows that 100(52%) were not visited regularly by their spouses.

Pie charts 4 shows the reasons why spouses were not regularly visiting their partners at their workstations. 40% indicated that it was due to the distance between the workstations and where the spouses are. 33% indicated that they could not visit regularly since there was no privacy and 27% showed that they were taking care of the children at home.

Table 1: Comfort ability to engage in sexual activities

Type of response	No. of respondents	Percentage
Yes	93	39%
No	81	34%
No response	67	28%

Table 1 shows that 39% of respondents illustrated that they were comfortable to engage in sexual activities, 34 % showed that they were not and 27% did not respond to the question.

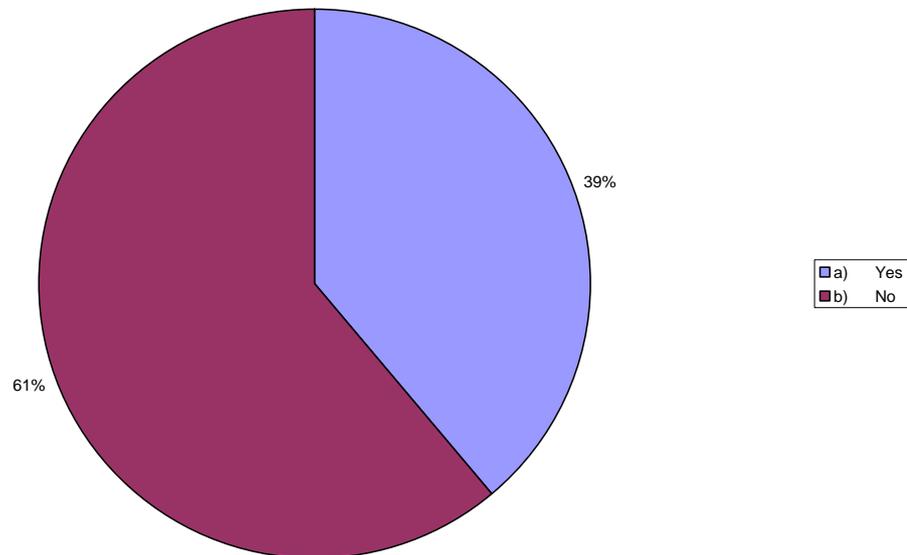
Table 2: Reasons for not being comfortable to engage in sexual activities

Options	Responses	Percentages
a) No privacy	79	33%
b) Does not visit	50	21%
c) No response	102	42%

Table 2 illustrates that 33% of the respondents were not comfortable to engage in sexual activities as there was no privacy in their rooms/dwellings, 21% showed that their spouses does not visit them at their workstations and 42% did not respond. It can be deduced from the two tables that 39% who indicated that they were comfortable to engage in sexual activities are those who are occupying proper houses and therefore have privacy. 34 percent did not feel comfortable to engage in the activity as there was no privacy as illustrated in table 2 with 33 %. The researcher is of the opinion that this is the group of respondents who are occupying tin houses or shacks. The latter group of respondents 28% in table 1 and 42% in table 2 are those who are from the local community or those whose families are less than 150Kms from their workstations and as such can go home frequently.

Sexual Partners apart from spouses

Pie Chart 5: Sexual Partners

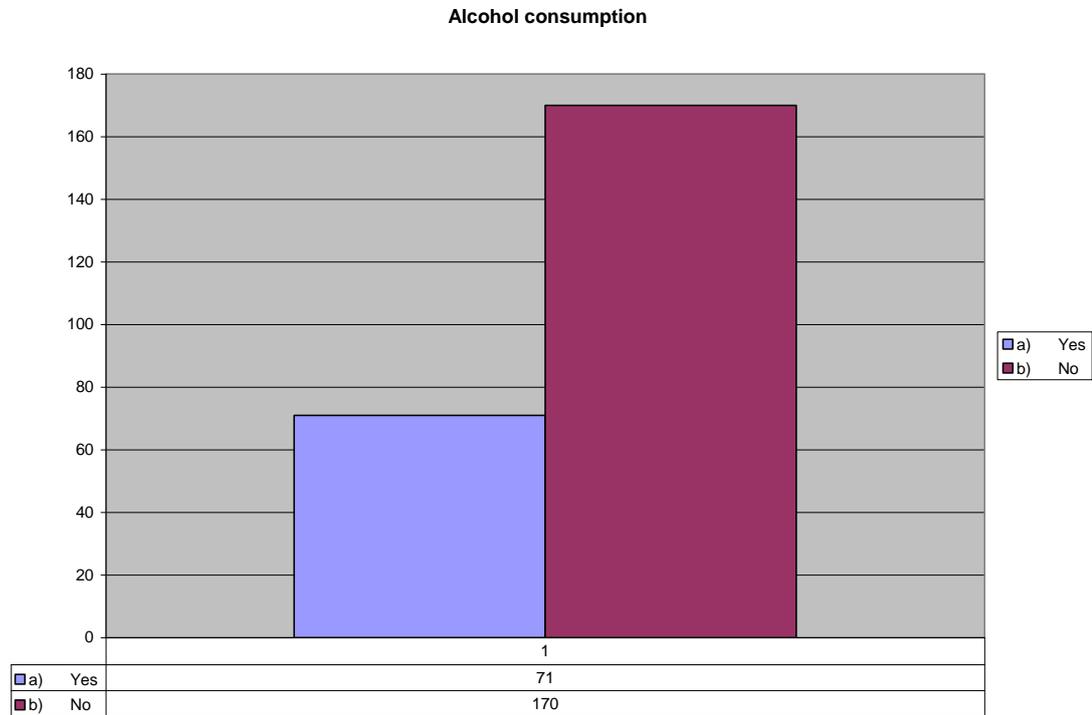


Pie chart 5 indicates that 61% of the respondents did not have sexual partners apart from their spouse. 39 % indicated that they had sexual partners apart from their spouses. The researcher is of the opinion that the 61 % includes respondents who are locals or those who are able to visit their families on daily basis, weekly or twice a month. Alternatively, who are regularly visited by their spouses at their workstations. The researcher is of the opinion that the 39% are those who were unable to visit their families regularly or could not be visited on regularly basis. These are respondents who are at high risk of contracting the infection in that they are exposed to conditions (duration of time away from home and family, and boredom and opportunities with multiple partners) for HIV in construction as outlined by ADB,2006. The case study, DMRC, 2003 also indicated that construction work encourage high-risk sexual behaviour due to separation from family, alienation from socio-cultural norms, loneliness, and a sense of anonymity that offers greater sexual freedom.

The findings of this study is similar to the findings of the SAMP study which showed that migrant men were significantly more likely than non-migrant men to have casual sexual partners and to be HIV positive. More men than expected reported having no casual partners which may indicate underreporting, or that casual relationships are of a short duration.

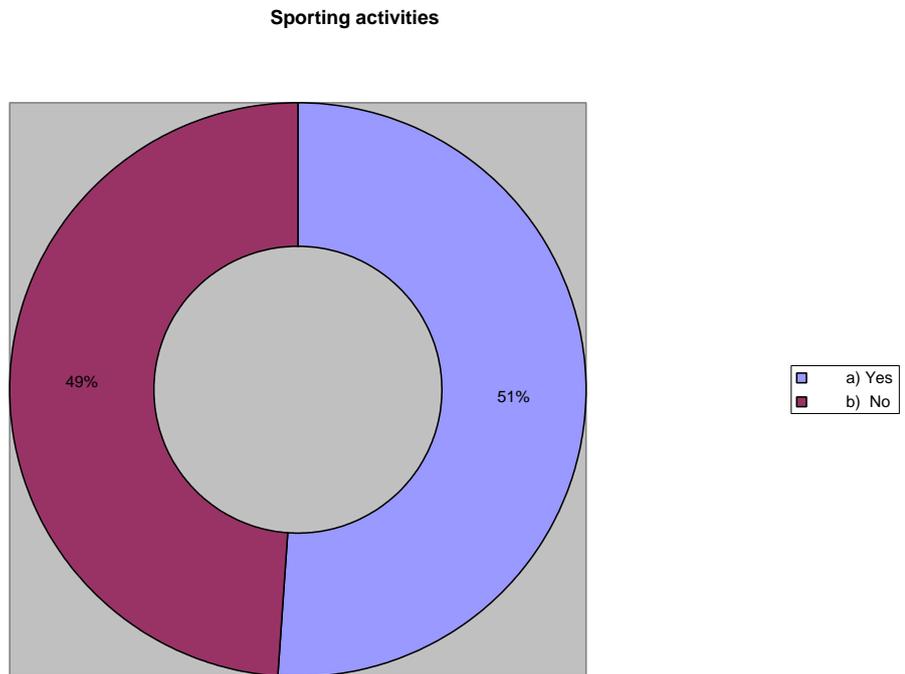
Alcohol consumption

Histogram 4: Alcohol consumption



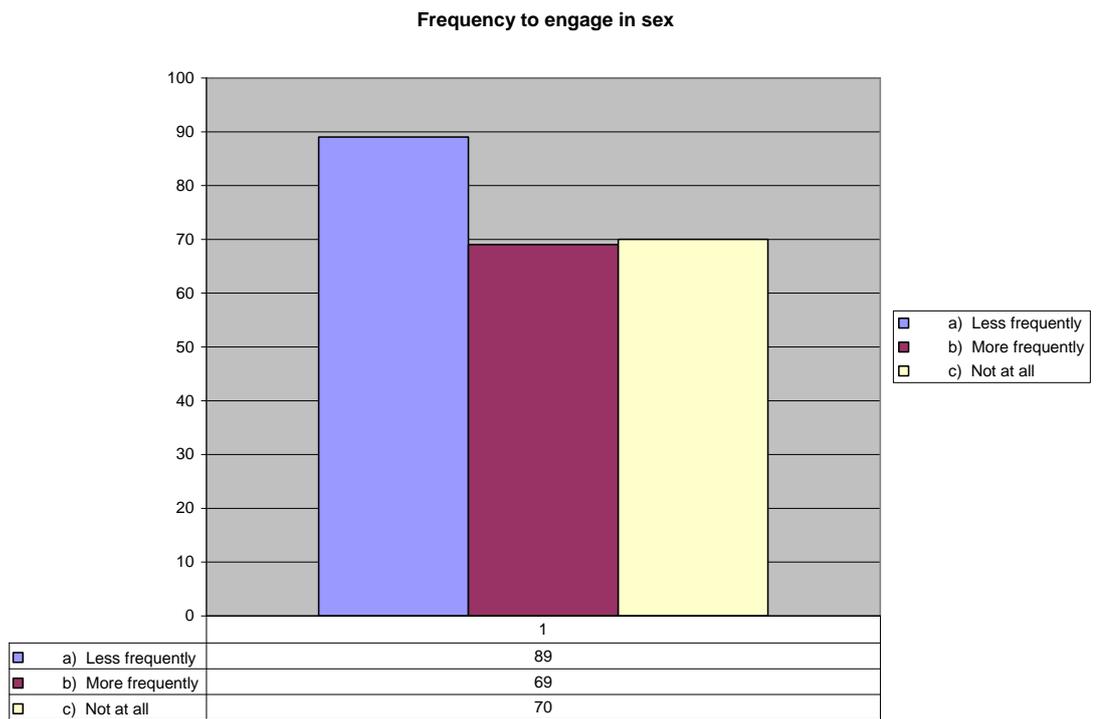
Histogram 4 shows that 71 respondents do take alcohol and 170 do not. The researcher is
Because of the long distances, partners are vulnerable to change their behaviour and indulge in risk –taking behaviours such as alcohol abuse and unsafe sex practices.

Pie Chart 6: Participation in sporting code



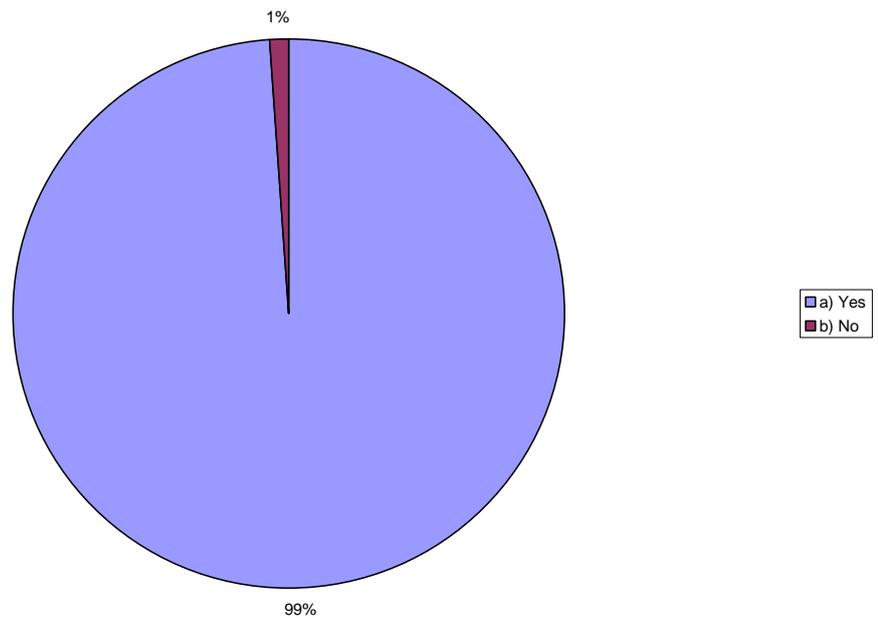
Pie chart 6 shows that 51% of the respondents illustrated that they were participating in sporting activities after hours or during weekends. 49% percent showed that they were taking part in any sporting activities.

Histogram 5: Frequency to engage in sexual activities



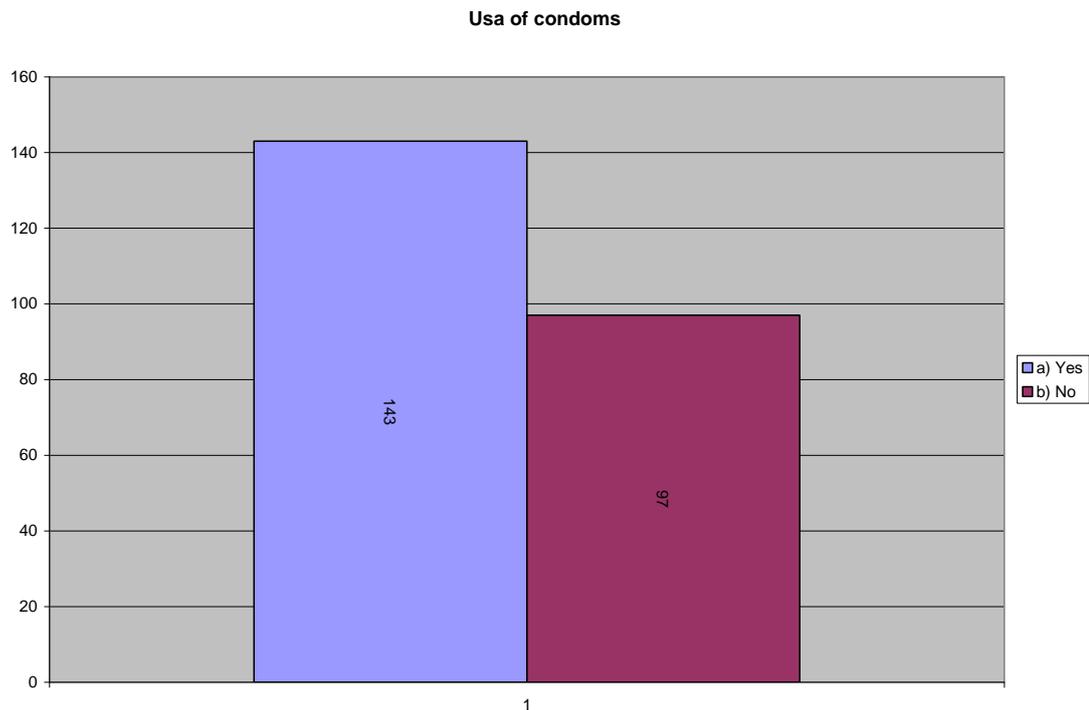
Histogram 5 denotes that 89 respondents engage in sexual activities less frequently, 69 more frequently and 70 do not engage at all. It can be deduced from the graph that the majority of respondents are still sexual active.

Pie Chart 7: Access to condoms



Pie chart 7 shows that the majority (99 %) of respondents have access to condoms. However 1% outlined that they did not have access to condoms. The researcher is of the opinion that the accessibility of condoms at cost centre level is due to the Employee Wellness Programme within the department. However, 1% of the respondents did not have access condoms and are more likely to contract the infection in case they are within the range of those engaging less or more frequently in sexual activities.

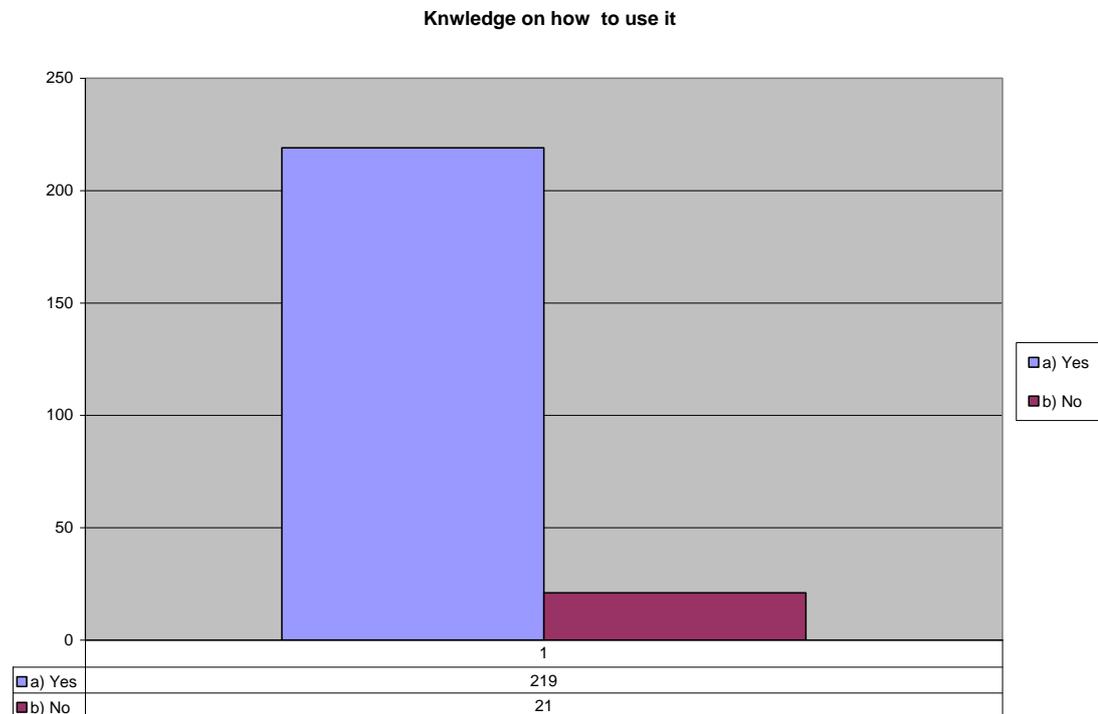
Histogram 6: Usage of condoms



Histogram 6 depicts that 143 of the respondents use condoms (either male or female) during sexual activities. Although the majority of respondents have access to condoms 97 respondents illustrated that they do not use condoms. UA HIV/AIDS info outlines one of the modes of transmitting HIV as having unprotected anal oral or vaginal sex (not correctly using a latex condom or dental dam) with a person who has HIV or whose HIV status is unknown. The researcher is of the opinion that the 97 respondents who illustrated that they are not making use of condoms during the intercourse are at high risk of contracting or spreading the HI virus.

This is supported by statements made by i) ADB (ADB;2006) that the conditions for HIV infection in construction and transport sectors were identified as condoms not used/low knowledge of their efficacy, ii) CSIR that an uninfected construction worker could become infected through unprotected intercourse and on return to his/her place of origin spread the disease there.

Histogram 7: Knowledge on how to use condoms



Histogram 7 depicts that the majority (219) of respondents know how to use the condoms (male or female). However, there were 21 respondents who indicated that they did not know how to use condoms. It can be deduced that the 21 who did not know how to use a condom might be at high risk of contracting the virus in the case where they are not using the condom in a proper manner as explained by <http://www.ripnroll.com> and <http://www.womenshealth.about.com> websites. The researcher is of the opinion that the 21 respondents might also include those respondents who do not have access to condoms and this could be one of the reasons why they do not know how to make use of it.

6.3 Summary of the findings of the study

The following is a summary of the major findings from the study:-

- The majority (142) of respondents were from a distance less than 150KMs from their workstations with the minority (99) staying more than 150KMs away from their homes.
- The majority of respondents were occupying proper houses/structures, 70 tin/shack houses.
- 117 respondents were staying in groups (proper houses/structures designed to accommodate 3 occupants). 78 were staying alone. This could be in tin/shack houses or in proper houses /structures designed to accommodate one occupant.

- 89 respondents illustrated that the type of accommodation does not offer privacy at all, 73 offered them privacy to a great extent and 44 to a less extent.
- 166 respondents showed that they frequently (daily to once a month) visit their families and 70 did not frequently (once in 2 months – once a year) visited their families.
- 91 respondents showed that their spouses/partners visit them regularly and 100 showed that they are not regularly visited by their spouses/partners.
- 40% of the respondents showed that their spouses/partners were not visiting them because of the distance between their workstations and homes, 33% showed that there was no privacy where they are staying and 27% showed that their spouses/partners remained at home to take look after the children.
- 93 respondents indicated that they were comfortable to engage in sexual activities, 81 were not. The response of those who were not comfortable were i)79 indicated that there was no privacy, ii)50 showed that their spouses/partners were not visiting them iii) 102 did nor respond.
- 84 respondents had sexual partners apart from their spouses/partners and 132 did not have.
- 71 respondents indicated that they were taking alcohol and 170 were not.
- 0 respondents were taking drugs and 163 were not.
- 120 respondents were participating in different sporting activities and 115 were not participating.
- 89 respondents showed that they were less frequently engaging in sexual activities, 69 were more frequently engaging and 70 were not at all in engaging in sexual activities.
- The majority (238) showed that they had access to condoms (both male and female) and 3 did not have access.
- The majority (143) indicated that they were using condoms during sexual intercourse and the minority (97) stated that they were not using condoms.
- The majority (219) knew how to use a condom and 21 did not know how to use it.

CHAPTER 7: SUMMARY OF THE STUDY, FINDINGS, RECOMMENDATIONS AND CONCLUSION.

7.1 Introduction

The working environment that construction workers are exposed to contribute to the high rate of HIV incidence. The main objectives of the study was to i) to identify the working environment that construction workers are exposed to ii) to determine whether or not this working condition contributes to the spread of HIV, and iii) develop control measure that can mitigate the spread. The study was conducted in the Department of Public Works focusing at employees at cost centre level. A summary of the study, followed by the findings, recommendations and a conclusion is outlined in this chapter.

7.2 Summary of the study

This study was aimed at finding out if the working environment that construction workers are exposed to contribute to the high rate of HIV incidence. The study was focusing on the working environments that construction workers are exposed to. In this case the working environments were defined as any of the following-:

- A distance of more 150 KM from home to the workstation without means of transport to take workers home on daily basis.
- Place without preventative measures and promotional materials e.g. condoms
- Place without facilities for extramural activities e.g. sporting activities.
- Place not suitable for spouses to visit e.g. shared tin house or shack and tents.
- After hours boredom and etc.

A simple random sampling method was used as a sampling tool. All employees were grouped together and given numbers from 1 to 1 976. Each 7th employee was then selected from the sampling frame until a desirable number was reached. 241 employees were selected.

A quantitative approach was used in the study and a group –administered questionnaires were used as a tool for collecting the data. The researcher was available at some of the cost centres where data was first collected to assist the respondents in case they experienced problems in completing the questionnaires. However did not go to the cost centres where data was collected latter as all the respondents who completed first did not experience problems in completing the questionnaire.

The questionnaires were translated into Tshivenda, Shangaan and Sepedi since most of the respondents could not read and understand English. The data was collected between 01- 30 September 2008. This was so due to the distance between these cost centres.

7.3 Findings

The following conclusions about the employee's working environments are salient:

- 7.3.1 The majority of employees workstations are local or situated less than 150KMs from their workstations and are able to visit their families between the range of on-daily –basis to once a month. However there are the employees who are a minority, whose families were located 150KMs away from their families. These employees should be taken into consideration as they are vulnerable to HIV due to distance between their workstations and families.
- 7.3.2 The majority of the employees of the department are staying in tin/shack houses which do not offer them privacy more especially when visited by their spouses or partners and as such does not feel comfortable to engage in sexual activities due to the nature of the dwelling. The natures of accommodation they use also deter their spouses/partners from visiting.
- 7.3.3 The majority of employees stay at their workstations for a long time without any physical contact with their spouses. The reason includes amongst other distance, lack of privacy in houses utilized in these workstations and etc.
- 7.3.4 The Department is populated by employees who are still sexual active, although the frequency of engaging in this activity differs. Condoms are easily accessible in the department and the majority knows how to utilize them, however, there are employees who choose not to utilize them.
- 7.3.5 The majority of employees do not have sexual partners apart from their spouses and do not take alcohol. However there are employees who have sexual partners apart from their spouses and some take alcohol.
- 7.3.6 The majority of employees do not have sexual partners apart from their spouses and do not take alcohol. However there are employees who have sexual partners apart from their spouses and some take alcohol.
- 7.3.7 The majority of employees do not drink and also none of the employees are using drugs. However, there are employees who indulge in alcohol.
- 7.3.8 The majority of employees have access to condoms, knows how to use them and utilize them during sexual activities. However there are those (97) who do not use them during sexual activities.

7.4. Recommendation.

A robust intervention that would deal with the problem once and for all would be to do away with cost centres and migrant labour. However, this will not be applicable considering the core mandates of the department (which requires that such services be rendered in such places) as well as the future of these employees which will contribute to the high rate of unemployment in the country should this recommendation be implemented.

The following recommendations in relation to the working environments are made although they are anecdotal -:

- **Adjustment of the official working Hours Policy-** adjusting their normal working hours i.e. the policy outlines that employees doing office work shall commence at 7h30 and knock off at 16h30 with lunch time between 13h00 and 14h00 in order to arrive at the 8hrs per day as expected. This is only applicable to those employees who are working normal office work and exclude employees who are doing shift work. In order to ensure that there is no deviation from the expected 8 working hours; employees can start at 7h00 and knock off at 16h30, or alternatively reduce their lunch time by 30 minutes which will then accumulate to hours and be used on Fridays or the weekends that they will be visiting their families.
- **Provision of transport-** Employee who are stationed in outskirts centres should be provided with transport to ferry them to nearby town in order to enable to access transport every last Friday of the month.
- Proper accommodation should be provided to employees to accommodate their families. The department should set aside enough budgets in order to provide proper houses at cost centre levels that will offer them privacy when visited by their spouses or partners.
- The Social Wellness Programme should be intensified in Cost Centre level to keep employees busy at all times.
- Awareness Education should be provided continuously in order to promote good behavioural practices at all times.
- Integration of Cost Centres into communities' settlement in order for employees to uphold community values and principles.
- The Social Wellness Programme should be intensified in Cost Centre level to keep employees busy at all times.
- Food gardens should be developed to keep employees busy and also ensure salary savings since employees will eat food from their gardens.
- Intensify the HIV/AIDS Programme (e.g. Awareness, condom distribution, VCT, Care and Support) at Cost Centre.

- Recommends that further related studies be conducted in the construction sector in order to devise measures that will mitigate the prevalence rate.

7.5 Conclusion of the study.

The researcher acknowledges that there was a degree of error during the collection of data i.e. respondents might not have given the true reflection of what is happening to them as individuals, but what they have observed around their cost centres (including what their neighbours or friends are going through or encountering).

From the information above (literature review, background, research methodology and findings), it can be concluded that there are working environments that construction workers are exposed to whilst at construction sites, which contribute and fuel the spread of HIV/AIDS and that the situation will get worse should they be left unattended. The working conditions that these employees are exposed to are-:

- Distance between their workstations and families,
- Nature of accommodation utilized at these sites, which does not provide the necessary privacy.
- Risky sexual behaviour (extra-marital affairs, non-utilization of condoms during sexual activities, intake of alcohol etc).

It is suggested that more research on the topic be conducted in order to curb the epidemic.

REFERENCES

1. About.com. Women's Health: How to Use a Male Condom (Online). Retrieved July 14, 2008 from <http://www.womenshealth.about.com/cs/birthcontrol/ht/malecondom.htm>
2. ADB. (2006). Development Agencies Help Infrastructure Sector to fight AIDS (Online). Retrieved June 13, 2008, from <http://www.adb.org/media/printer.asp?articleID=10438>
3. AIDS Foundation, South Africa, Developing Partnership. Serving Communities. HIV in South Africa(Online) Retrieved May 27, 2008 from <http://www.aids.org.za/hiv.htm>
4. AVERT. HIV and AIDS statistics for South Africa (Online). Retrieved June 20, 2008, from <http://www.avert.org/safricastats.htm>
5. Christensen, L.B. (2007). Experimental Methodology (tenth edition). Allyn and Bacon. Boston. Chapters 3 & 14.
6. CSIR. (2002). Final Environmental Impact Report: Proposed Aluminium Pechiney Smelter within the COEGA IDZ.
7. CIDB. (2003). Specification for HIV/AIDS Awareness (Online). Retrieved June 13, 2008, from <http://www.cidb.org.za/knowledgecentre/DocumentMoreInfo.aspx?KnowledgeCentreDoc>
8. Department of Health. (2006). HIV & AIDS and STI: National Strategic Plan 2007-2011
9. Department of Public Service and Administration. (2002). Resolution No 7 of 2002, called Framework Agreement: Transformation and Restructuring of the Public Service (Utilisation of Human Resources).
10. Dickinson, D., & Versteeg, M. (2004). HIV/AIDS and the Construction Industry; South African Labour Bulletin. Vol.28.No.5. October 2004.
11. Family Health International. HIV Prevention in Mobile Populations (Online).Retrieved May 07, 2008, from <http://www.fhi.org/NR/Shared/enFHI/PrinterFriendly.asp>
12. IOM. Construction (Online). Retrieved May 26, 2008, from http://iom.org.za/site/index.php?option=com_content&task=view&id=100&Itemid=104
13. International Organization for Migration. Briefing Note on HIV and Labour Migration in South Africa.
14. JBIC. (2003). Case Study: Delhi Metro Rail Corporation.
15. Live Science. (2006). The Global Impact of HIV/AIDS (Online). Retrieved May 29, 2008, from http://www.livescience.com/health/ap_060604_aids_25_africa.html
16. McBurney, D.H., & White, T.L. (2007). Research Methods.7th Edition. International Student Edition. Thomson Wadsworth
17. Power Group. (2005). Will HIV/AIDS cripple SA Construction? (Online). Retrieved June 13, 2008, from http://www.powergrp.co.za/Press_releases/press_mar06.htm
18. RipnRoll. Female Condoms-How to use (Online) Retrieved July 14, 2008, from <http://www.ripnroll.com/femalecondoms.htm>
19. Sapsford, R., & Jupp. V. (2006). Data Collection and Analysis, 2nd Edition. Sage Publications.

20. The Southern African Migration Project. (2004). Migration, Sexuality and the Spread of HIV/AIDS in Rural South Africa. Migration Policy series No. 31
21. UA HIV/AIDS Info. How HIV is transmitted (Online). Retrieved December 03, 2007, from http://www.albany.edu/sph/AIDS/aids101_2.html
22. UNAIDS. (2003). Mobile Populations and HIV/AIDS in the Southern African Region. Recommendations for Action. p.54.
23. UNDP. HIV and Development Programme: The HIV Epidemic and Development: The Unfolding of the Epidemic, Issues Paper No.1(Online) Retrieved April 15, 2008, from <http://www.undp.org/hiv/publications/issues/english/issue01e.htm>
24. Van Niekerk, A.A., & Kopelman, L.M. (2005). Ethics & AIDS in Africa: The Challenge to out Thinking. David Phillip Publishers
25. Voluntary Health Association. (2003). Case Study: Delhi Metro Rail Corporation