

CHAPTER FOUR

A NEEDS ANALYSIS FOR HEALTH INTERVENTIONS – CASE STUDY OF KAYAMANDI

4.1 Introduction

In the 1980s, the WHO emphasised that health and well-being of individuals are closely connected with social, cultural, physical, economic and other factors inside living areas or towns (Burlington, 2005). Against this background, it can be assumed that individuals living and growing up in extremely impoverished settings should therefore have the greatest need for health interventions that will enhance and strengthen their health and well-being. In regard to the intervention presented in this thesis, and undertaken in a very impoverished community, a needs analysis was outlined beforehand to 1) identify prevalent risks and resources in the specific setting, 2) immerse the intervention in its surrounding and 3) adequately adjust the life-orientated modules for its participants.

The information for the needs analysis was drawn from regular field trips and field reports, an extensive literature review (e.g. maps, official statistics, published and unpublished articles), and photographic documentation. The methodology for the needs analysis is described in chapter 6.

The following section describes the particular case of Kayamandi (translated as ‘pleasant home’) in order to highlight the social, health, security and educational infrastructures in a disadvantaged community⁶ in South Africa that have resulted from historic, socio-economic, as well as political processes in the country.

4.2 The History and Geographical Development of Kayamandi

The town Stellenbosch is located 30 kilometres east of Cape Town in the Western Cape Province. It is the second oldest town (founded in 1679) in South Africa (Dennerlein & Adami, 2004), and historically a centre of Afrikanerdom during Apartheid in which the university played a central role in educating the Apartheid elite. The economic pillars of the town are wine and citrus farming. Light industry and tourism have assumed growing economic functions (Donaldson, 1990) in recent years.

⁶ Community is hereby defined as everyone living or working in a specific geographical area (Campbell 2003).

Stellenbosch's 79 000 inhabitants predominantly live in three sections, according to the standardised town structure during Apartheid. The centre of Stellenbosch comprises of various neighbourhoods as well as the university campus, and accommodates mainly students of the university and people of European (white) origin. The so-called coloured population predominantly lives in the areas of Idasvalley and Cloetesville. During Apartheid these areas formed the buffer zone between 'white' and 'black' areas. The third area comprises mostly of people with African origins. This part of town is called Kayamandi and is situated on the north-western side of Stellenbosch along an arterial road.

The town structure during Apartheid reflected the visual and local separation of people on a racial basis that led to different standards of living. The present town structure of Stellenbosch has not considerably changed since the democratisation of South Africa in 1994, and currently encourages the separation of social strata within the population to a certain extent.

4.2.1 The Establishment of a Township Structure (1930s until mid-1980s)

In the 1930s, before the Group Areas Act (1950) that distributed living areas in order to separate racial groups, the Municipality of Stellenbosch introduced separation and control measures. They relocated the group of African people living in Stellenbosch at the time, to another area at the edge of town. Therefore, Kayamandi can be regarded as the second oldest township in South Africa. At this time, approximately 80 black people lived as housekeepers or farm workers in Stellenbosch. From 1930 until 1940, the farm Platte Clip accommodated the African community of Stellenbosch. In 1940 people were moved from Platte Clip to the current site of Kayamandi on the north-western outskirts of Stellenbosch (Figure 4.1). Then, the area had fixed borders and a surface of 7.5 ha.



Figure 4.1. Kayamandi Structure in 1939 (Dennerlein & Adami, 2004).

The residential area was planned to accommodate mainly single men who were farm workers on the nearby wine farms. At that time, blacks were admitted to urban areas only if they had work contracts; their wives and children had to stay in designated territories, which later led to the degeneration of family structures and severe and widespread poverty (Peires, 2005). Fifty-five hostels, i.e. houses exclusively for single men, were built, where ten men stayed in rooms with double-bedding and shared one toilet and one kitchen. However, ninety-six detached houses were built for families (318 people) that already lived in the community. The detached houses had one room, an indoor shower, a kitchen, and were surrounded by a small garden (Dennerlein & Adami, 2004). In the early 1940s, private companies built more hostels. These new buildings accommodated sixteen men who lived in basic units with one shower, one toilet, one small kitchen, and tiny bedrooms for up to three men.

In 1948 Apartheid was officially established as the new South African form of government. The Segregation Law, one of the main segments of Apartheid regulations, separated public and private life for all South African inhabitants on racial grounds. Legalised township structures, such as Kayamandi, were established as living areas. In the 1960s, the Municipality of Stellenbosch considered moving the residents of Kayamandi to another industrial area further away from town. The relocation to a distant area was intended to visually and geographically separate the black township from Stellenbosch. In the end, the municipality's intention was abandoned because it was feared that the relocation would traumatise the people and restrict their ability to work. In the 1970s until the 1980s Kayamandi's structure was formally divided into areas for hostels and areas for detached houses with gardens. During that decade, a conflict between long-term residents and hostel dwellers turned into violence within the township.

4.2.2 Migration and Population Growth (1989 until 2004)

Since the abolishment of Influx Control in 1986, together with the Segregation Law and the Group Areas Act in 1991 there has been a considerable growth in African communities especially in the period between 1989 and 1991. Because migration streams are primarily shaped by human flows from distribution areas of relative poverty like the Eastern Cape Province, immigration mainly happens to areas of relative affluence like the Western Cape Province and the Cape Metropolitan Area. People who migrate to these areas mostly belong to rural and unskilled Xhosa speaking households pushed by rapidly deteriorating conditions in the former homelands of Transkei and Ciskei (PGWC, 2001). In 2001, a socio-economic survey conducted in Kayamandi asked residents to state their date of migration into the

Stellenbosch area, and the source area. Most of the in-migration took place in 1998 (6.3%). The majority of people (74.4%) came from the Eastern Cape Province (Transkei/Ciskei). The majority of the rest (23%) came from other areas of the Western Cape Province, e.g. 10% from the Cape Metropolitan Area (Guguletu, Khayelitsha, Langa) (US, 2001)⁷.

Migration from the rural areas to the semi-urban area of Kayamandi changed the township structure from formal to informal and caused dense living and housing conditions. The shortage of formal housing forced immigrants to stay either in the hostels, where they lived with sixteen other families, or to build informal houses. The first squatters (builders of informal housing) settled on the rugby field in the community and then in the early 1990s began to fill all other vacant areas, thereby forcing the community boundaries (Skinner, 2000). Since 1991 the most rapid increase in population has occurred in the squatter area; a continuing trend at present (Dennerlein & Adami, 2004). Another fact, confirmed by the PGWC (2001), is that the metro-born section of the African model is closely connected to the long-established African townships, whilst the population of the informal settlements consists almost entirely of in-migrants. In most recent years, the uncoordinated influx and overcrowding deepened the long-term conflict between old residents and new arrivals; a conflict that characterises the atmosphere within Kayamandi at present.

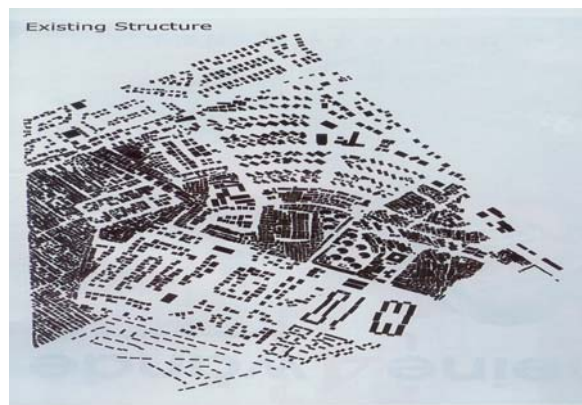


Figure 4.2. Kayamandi Structure in 2000 (Dennerlein & Adami, 2004).

However, apart from the migration flow into the township, there seems to be an even stronger migration process within Kayamandi itself, another fact that contributes to a tense atmosphere. Zone F, an informal settlement area, for example, consists mainly of people (74%) that have moved into Kayamandi in 2001 and have recently moved to this informal

⁷ The results are assumed to be not representative for the Kayamandi population because most of the people asked refused to answer this question.

area from other areas in Kayamandi because they were unable to afford high rents for backyard shacks or rooms (Development Action Group, 2002). This means, the lack of space seems to force people to move between already densely populated areas in Kayamandi in order to identify free plots.

The demographic data for Kayamandi varies considerably due to these migration processes. In 1989 a macro plan of Stellenbosch was drawn up by the Provincial Administration of the Western Cape and the Kayamandi Town Council (PAWC & KTC, 1989), that estimated the population at 6 524. In 2002, whereas the Stellenbosch Town Engineer was convinced that a total of 14 000 people lived in the township, the latest independent census in Kayamandi undertaken in 2004 estimated the number of inhabitants at 28 000 (Dennerlein & Adami, 2004) (Figure 4.2). This census also indicated that 35% of the inhabitants of Stellenbosch lived on one eighteenth (1/18) of the total area of the town. This also means that 2 980 people on 1 km², with an influx rate of about 150 people per month (Dennerlein & Adami, 2004), which makes a decline in in-migration in the near future unlikely.

The reasons for the increase in population in Kayamandi are rooted in political and demographical dimensions. The abolition of Influx Control (1986) and the Segregation Law (1991) in particular, allowed people to choose freely their living locality and work place even though the township structure was not prepared for the high and uncontrolled influx. The demographical dimension included two factors: First, the high growth in the internal birth rate and second, the growing number of immigrants who had been rooted in increasing poverty in deprived provinces or rural areas. The extreme increase in population without a parallel increase in territory caused a high population density within Kayamandi, resulting in pressure on the already underdeveloped infrastructure and a deterioration of living and housing conditions. Many people are forced to live without privacy or adequate living conditions that support health and well-being. These conditions are described in more detail in the next paragraph.

4.3 Socio-Demographic Conditions

4.3.1 Ethnic Diversity and Cultural Heritage

Kayamandi has a diverse ethnic and cultural composition. The residents mainly belong to Xhosa, Tswana and Cape Coloured ethnic groups, and include a handful of European descendants and immigrants from other African countries such as Lesotho, Somalia, Nigeria or Ethiopia. However, the majority of residents belong to ethnic clans of the Xhosa. The main

language spoken in Kayamandi is isiXhosa. The second most common language is Afrikaans, which does not only link Kayamandi residents with the Afrikaans culture in Stellenbosch, but is also a precondition for occupation arrangements in town. Despite the fact that every ethnical group can freely practice its rituals, traditions, religions, and languages since the abolition of Apartheid, migration from rural areas to the semi-rural area of Kayamandi causes cultural transition. Cultural transition inevitably results in a mixture of rural-traditional and urban-western value systems and life styles that may have far-reaching consequences during verbal or physical conflict between residents of formal and informal areas.

4.3.2 Age Structure

According to a survey by the University of Stellenbosch in 2001, the Kayamandi population consists of 51% women and 49% men. The population is characterised by a youthful age structure. In 2001, about one third (33.9%) of the population was between 0 and 15 years of age. More than half (55.6%) of the population was younger than 25 and nearly 70% younger than 30 years of age. Only 2.8% were 60 years and older. The mean age of the residents was 23 years (US, 2001). These figures indicate that older role models and mentors of the youth are virtually absent in Kayamandi (Barnes, 2002a).

4.3.3 Marital Status and Family Units

A survey by the University of Stellenbosch in 2001 revealed that 50% of the population between 16 years and older were single and had never been married. During the survey 42.3% stated that they were married and 4.5% reported that they lived with a single partner (US, 2001). The rest reported to be divorced, widowed, or separated from their partner. In contrast to the data on marital status it was found that about 13% of the adult (older than 17 years) population of Kayamandi were single parents, the majority (73.3%) of whom between 20 and 34 years of age. A large proportion of this group (28.7%) formed a household with one or more single parents.

The same survey found that 57.5% of the interviewed women, 12 years and older, had borne a child. More than one third of this group of women (34.5%) had one child, 47% had two or three children and 18.3% had more than four children (US, 2001). Furthermore, 42.4% of the women had borne their first child when they were still at school, of which 5.9% testified that they were still in primary school when they had borne their first child. Only 5% of the women were older than 30 years when they first gave birth (US, 2001).

In regard to presented data, it can be argued that there are three prevalent types of family units in Kayamandi (their frequency not confirmed). The first identified type of family unit is the nuclear family unit that consists of parents and children. The second most common unit is a single parent family unit that consists mainly of mothers, with one or more children. According to Barbarin and Richter (2001) the main factors that contribute to single parent family units could be childbearing outside of marriage, as well as divorce and separation. The third prevalent type of family unit is a multi-adult, multi-generation living unit or rather an urbanised version of the rural extended family based on clan and kinship networks (Barbarin & Richter, 2001), with limited living space. This type of family unit is characterised by instability caused by migration processes during which members move in and out of these units and therefore permanently change the composition.

In regard to the previous statement, migration also creates instable living conditions and family structures in situations where children do not always migrate with their parents, where they arrive at a later stage or where they lodge with kin or friends after their parents have moved somewhere else (PGWC, 2001). The 2001 US survey revealed that in Kayamandi 4.4% of all children 17 years and younger were living in households that did not include their biological parents. The majority of absent parents (57.1%) resided in the Eastern Cape, while 11.4% were untraceable and a further 11.4% deceased. The majority (97%) of these children with absent parents were related to the nuclear family occupying the residential unit (US, 2001). The typical rural and traditional African extended family unit is assumed not to be represented in Kayamandi due to the absence of older generations. The existing data did not point out the existence of so-called child-headed households or guardian family units.

4.3.4 Employment Status and Income Level

In 2001, taking into account the not economically active housewives, the unemployment rate in Kayamandi was estimated at 34% (US, 2001). In South Africa, the official unemployment rate in February 2000 was 27% (Lehohla, 2000). The unemployment rate in Kayamandi was therefore higher than the national average. The survey also showed that the majority of the men (67%) and only half the women (49%) in Kayamandi were employed at the time (US, 2001).

This inequality in terms of employment might lead to another social problem, namely a large number of women raising their children alone (single-headed households) and without proper income. It is likely that job opportunities are rare, especially for poor, unskilled and uneducated women (Campbell, 2003), a situation that further contributes to poverty in these

households. In addition, the highest unemployment rate is reported amongst the 15-29 age group, namely 36.4% (US, 2001). This is a possible indicator for a high unemployment rate especially among younger population segments in Kayamandi.

Most of the residents who had an occupation were employed in Stellenbosch, on surrounding farms or in Cape Town. Three quarters of the economically active people were employed full-time. More than 10% worked part time, e.g. three days a week, 6% were self-employed, e.g. as street traders, and 8% were seasonal workers (US, 2001)⁸. Most people were employed in the service sector (30.3%), general labour (11.3%) and artisan work (9.5%) (US, 2001). Occupations in the service sector were cleaning personnel, waiters/waitresses, cooks, garage guards, gardeners or tradesmen working as building workers, assistant plumbers, assistant electricians, and carpet cleaners.

In correspondence with the unskilled jobs, the above mentioned occupations were linked to low monthly incomes. The migration report by the Provincial Government of the Western Cape Province of 1996 revealed that on a national scale 26% and on a provincial scale 18.4% of employees earned less than R500/month (PGWC, 2001). The following statistics on the actual income distribution in Kayamandi have not been verified. The income distribution report by the US in 2001 showed that 8.7% of the economically active persons earned less than R500⁹ per month. More than half of the employed (56.5%) had more than R500 and less than R1 500 available per month. Only 34.8% of the employed had R1 500 per month or more at their disposal (US, 2001). Barnes (2002a) reported in their survey of 2002 that 49% of the households reported an income of less than R500 per month, while 37% reported total earnings of between R500 and R1 000 per month. The Development Action Group revealed that the poorest in the community live especially in informal settlements, and that 59% of this group earn less than R800 per month (Development Action Group, 2002).

Looking at income levels, the income of employed residents is considered generally low with a higher risk of poverty in the female group. One half of the employed women earn R1 000 per month or less as opposed to only 27% of the men. The income of women is considerably lower than the monthly earnings of men (US, 2001). Welfare transfers, such as pensions and disability grants, function as important components of household incomes particularly for the very poor (Leibbrandt, Woolard, & Bohrat, 2000 in Natrass, 2003).

⁸ During the picking season there is an additional influx of people into both communities to take advantage of the additional seasonal employment opportunities offered by the fruit farming industry (Skinner, 2000).

⁹ "...a family is classified as poor if its total income is less than \$1 per day for each member of the household. This is the minimum amount of money economists estimate is needed to feed one person. ...In South Africa, households whose total monthly income falls below the fortieth percentile (R301) are said to be living in moderate poverty....as many as 52 per cent of Africans...are moderately poor." (Barbarin & Richter, 2001)

However, those grants that contribute to the insurances of basic needs seem to be badly distributed in Kayamandi. Only 2.1% of the population receive state grants and 1% Child Support Grants. Only a small percentage (0.8%) of the 2.8% of pensioners in Kayamandi (people older than 60 years) receives Old Age Grant. Despite the high rate of single parent family units in Kayamandi, only 2.4% of single parents apply for maintenance.

4.3.5 Housing Conditions

Kayamandi can be divided into formal and informal zones. About two thirds (US, 2001) to more than three quarters of the housing units have an informal character (Barnes, 2002b). Housing in formal areas has a formal and semi-formal character. Formal units include detached houses (Figure 4.3), hostels¹⁰ and flats/townhouses (Figure 4.4).



Figure 4.3. Formal Housing (Detached Houses) (Bicher, 2005).



Figure 4.4. Formal Housing (Flats) (Bicher, 2005).

Semi-formal housing units have Wendy houses (prefabricated cottages) in their backyards or backyard shacks as an extension to the main house on the plot. Housing in informal areas is predominantly composed of squatter dwellings (Figure 4.5) with an average of 5 x 5 metres of floor space (PTT, 2004). The informal dwellings or shacks are constructed entirely or partially of wood, corrugated iron, plastic and other low-cost building material (Development Action Group, 2002). According to the US survey (2001), about 11.2% of the living units had one room and about 60% had two or three rooms (US, 2001).

Water and sanitation provision are sensitive issues in Kayamandi. According to Barnes (2002b) 12% of the interviewed people said that they had toilets outside, but directly next to the house, whilst the majority of households (64%) used communal facilities some distance

¹⁰ Up to 20 families live in the hostels, with 6 square meters available per family. Two toilets per hostel, and no bathroom facilities, make a private and hygienic life impossible (PTT, 2004).

from the dwellings. A total of 6.4% reported that there was no toilet available within walking distance (Barnes, 2002b). In general, it seems that only those people living in brick and detached houses have a toilet inside the house (18%) (Barnes, 2002b). People living in informal settlements use public taps for drinking and washing.



Figure 4.5. Informal Housing (Shacks), Kayamandi (Bicher, 2005).

The Reconstruction and Development Project (RDP), the governmental programme for housing and development in disadvantaged communities, has improved the infrastructure of Kayamandi since 1994. However, most of the residents have been on the waiting list since 1993 (Development Action Group, 2002) and according to the Pilot Project in Southern Africa (2004), 2 300 formal living units would be needed in Kayamandi (Erhard, 2000) to improve living and sanitation conditions for its inhabitants and to help contain overcrowding.

4.4 Health Status of the Population

High poverty levels and hazardous living conditions (e.g. insufficient sewerage system, unsatisfactory water and refuse removal in informal settlements) can contribute to a high prevalence of disease, e.g. tuberculosis, diarrhoea, and malnutrition among a population within a certain living area. The following paragraph describes the prevailing health conditions of children in particular living in this area, and the consequences for their physical and mental health development.

4.4.1 Incidence of Disease

Since 2000, a departmental community health team from the University of Stellenbosch has tested the water quality of the Plankenbrug River every six weeks. The Plankenbrug River

runs through Stellenbosch, around the dense settlement of Kayamandi and joins the Eerste River on the outskirts of town (Barnes, 2002a). The tests exposed dangerously high levels of faecal contamination in the river below Kayamandi. For example, in February 2003 a test for *Faecal Coliforms*, taken from a section of the river that runs above Kayamandi, found 329 *Faecal Coliforms* per 100 ml. At the testing point below Kayamandi the water was contaminated with 12 860 000 *Faecal Coliforms* per 100 ml (Barnes, 2002a). The test detected several bacteria (*B-haemolytic Streptococcus Group A*, *a-haemolytic Streptococcus*) that can cause severe diseases¹¹, serious infections in humans, a high fatality rate or serious impairment. So-called ‘flesh eating’ bacteria that cause infections of the upper respiratory tract (e.g. throat infections and cardiac conditions when the organisms settle on the valves) and rheumatic fever (*Streptococcus faecalis* and *Streptococcus spp*, *Enterococcus faecalis*) were also detected. Finally, bacteria (e.g. *Staphylococcus species*; *Enterobacter spp*, *Klebsiella species*; *Citrobacter spp*; *Proteus mirabilis* and *P vulgaris*) that cause skin infections, wound infections, septicaemia, heart disease, arthritis, pneumonia, violent nausea, vomiting and diarrhoea were found (Yeld, 2004; Thom, 2002).

According to Barnes (2002b)¹² this contamination arises mainly from human faeces, waste water and solid waste disposed into the sewerage systems or from some areas in the township that lack sewerage systems. The team of researchers warns that the faecal contamination constitutes a health hazard and that infectious diseases will arise from contaminated surroundings, which will in turn affect all persons coming into contact with the water. In short, the results of tested bacteria indicate a high level of a multitude of diseases within the population of Kayamandi, and intestine infections are most probably widespread.

4.4.2 Diarrhoea and Sanitation Models

The lack of sanitation models in Kayamandi, together with other factors, contributes to a high prevalence of diarrhoea. The sewerage system was originally designed for 5 000 residents in an area where presently more than 28 000 people live. The Stellenbosch Municipality Development Plan of 2001 estimated that one latrine serves 75 people (PTT, 2004). However, the inadequate provision of toilet and washing facilities is only one factor for the endangered health status of humans in this area. Another factor is the inadequate and delayed maintenance

¹¹ The organisms were identified at Tygerberg Hospital's Department of Medical Microbiology. Only bacteria were screened – the lack of funds made testing for viruses or fungi impossible (Yeld, 2004).

¹² For human use, drinking water should contain **no** *E.coli* organisms. For irrigation purposes, the level should not rise above 2000 organisms per 100 ml water. Detected *E.coli* organisms at the testing point below Kayamandi were 4 560 000 per 100 ml water (Barnes, 2002a).

of existing facilities, resulting in broken toilets or overflowed drains that in turn increase the pressure on remaining facilities (Barnes, 2002a).

The waste management is provided by the Municipality of Stellenbosch on a regular basis, once a week for formal areas and irregularly for informal areas. Residents from some of the informal densely populated housing areas complain that waste is left for days in the streets where it attracts large amounts of insects and stray dogs that tear open the plastic bags. The littered streets often serve as playground for children (Barnes, 2002b).

Diarrhoea is directly related to a lack of access to clean water and appropriate sanitation, and is considered one of the main causes of infant mortality in developing countries (WC Stellenbosch Municipality, 2003). The statistics of the Kayamandi Community Day Care Clinic indicate that, from January to December 2003, only 156 children were treated for severe diarrhoea (WC Stellenbosch Municipality, 2003). However, there are indicators for a much higher rate of children with diarrhoea than reflected in the statistics. In their survey of July 2001 Barnes (2002b) reported that 13% of residents (without making references to the age of respondents) reported one or more cases of diarrhoea. This was at the height of winter, with food spoilage at a low level due to the cold (Barnes, 2002b). To conclude, sanitation is considered poor due to overcrowding and overstrained toilet and sewerage systems. In addition, the cycle for the transmission of infectious diseases such as diarrhoea is fatal when combined with widespread poverty that accommodates lower resistance to infectious diseases as a result of malnutrition.

4.4.3 Malnutrition among Children

Apart from sanitation, inadequate food distribution within poor communities is an additional health hazard, especially for the youngest and weakest of society, the children. The National Department of Health estimates that 14 million (approximately 30%) of the South African population experience food insecurity. Within this context, children, especially those in rural and semi-urban areas, are the most vulnerable to malnutrition (Mvulane, 2003). The National Food Consumption Survey (NFCS) of 1999 (Labadarios, 2000), which examined the dietary intake of 2 894 South African children aged 1-9 years, reported that approximately one in five children (21.6%) aged 1-9 years of age in South Africa are stunted (Turcotte, 2003), i.e. a form of malnutrition. Turcotte (2003) examined the nutritional status of children younger than five years in a 24-hour recall survey in Kayamandi. The most significant finding in his analysis was the 24% prevalence of stunting in the sample. This is slightly higher than the national prevalence (21.6%). The 3.4% prevalence of malnourishment in Kayamandi was

lower than the national prevalence of 10.3% (Turcotte, 2003). These findings show that stunting is the predominant manifestation of malnutrition in Kayamandi.

Children who suffer from stunting (including growth retardation as a result of poor diets and/or recurring infections) tend to have more frequent episodes of severe diarrhoea and are more susceptible to infectious diseases such as malaria, meningitis and pneumonia (Steyn & Labadarios, 2002). Mvulane (2003) states that the health implications of malnutrition range from intrauterine brain damage and growth failure and reduced physical and mental capacity in childhood, to an increased risk of developing diet-related non-communicable diseases later in life. There is also strong evidence that an impaired growth is associated with a delayed mental development, poor school performance, and reduced intellectual capacity (De Onis & Blössner, 2003 in Turcotte, 2003). Studies have indicated that any form of malnutrition contributes to a significant reduction in lifetime earnings which, is likely to perpetuate inequities in health and other dimensions of household welfare in the future (Zere & McIntyre, 2003).

4.4.4 Undetected Disease Prevalence – HIV and TB

The following section gives a brief overview of the statistically registered Tuberculosis (TB) and Sexually Transmitted Infections (STIs), specifically the incidences of HIV, among the Kayamandi population tested at the Kayamandi Community Clinic. In 2003, 290 cases were reported of patients being infected with Tuberculosis (WC Stellenbosch Municipality, 2004); 73 of the TB patients tested HIV-positive (WC Stellenbosch Municipality, 2003). In total, 1 012 patients were registered as newly-infected with a STI of which 260 were newly-tested HIV-positive (WC Stellenbosch Municipality, 2003). In comparison, the HIV prevalence in the Western Cape Province in the same year was estimated to be 13.1% (National Department of Health, 2004c) with an increasing tendency.

Members of the Department of Health in Stellenbosch and nurses at the Kayamandi Community Clinic confirmed that the actual numbers are considerably higher than statistics reflect. The Department of Health could not, however, provide clear statistics on the actual prevalence of disease in Kayamandi because of the dual health system in Stellenbosch on the one hand and the anonymity of patients in statistics on the other. The other reason for possibly ambiguous statistics is the fact that a much larger number of people have never been tested for TB or HIV. They intentionally accept being untested and untreated to avoid the stigma surrounding AIDS or TB. In this way, both epidemics become additional burdens of fear that worsen existing deprivations of people that live in poor and unhealthy conditions.

In regard to HIV, several risk factors contribute to its transmission and subsequent high prevalence within Kayamandi. Only one selected factor shall be outlined at this point: Widespread sexually related risky behavioural patterns contributing to the transmission of STIs, including HIV. In his research during 2000, Skinner tried to better understand HIV-related behaviour in youth in two case study communities. One of the survey communities was Kayamandi. Using results from his qualitative methods only, Skinner found that although knowledge on HIV/AIDS was good, knowledge on STIs was poor, with high levels of denial and rejection of safer sex practices. He concluded that the ideology of male dominance was probably the central major problem blocking behavioural change and reinforcing the norm of multiple partners. In relation to this finding, he also established that direct or implied monogamy was not considered a possibility by the respondents. Women also answered they would be scared to request men to use a condom and all respondents stated that condoms were very seldom used since they spoil sex, show a lack of trust or, on a more sinister basis, are seen as a sign that the person has a STI or AIDS.

Skinner argues there is a great fear of being exposed as an STI or AIDS patient. This fear therefore limits access to treatment, especially at the clinic, which is located inside the community and thus highly visible (Skinner, 2000). In short, there seems to be highly complex and risky sexual morals in Kayamandi, which support the transmission and non-treatment of all STIs and the refusal (or oppression) of safer sexual practices. It can therefore be assumed these sex-related norms and behaviours are handed over from older generations to younger generations, putting the latter at risk of becoming infected, e.g. with HIV.

4.5 Crime Rate

Gathering data about the crime rate in Kayamandi turned out to be extremely difficult. With permission from the South African Police in Stellenbosch information was gathered from the Crime Analysis Centre in Stellenbosch (CIACS) and the Business Intelligence Menu (2004). Field interviews and field observations contributed to the description of actual crime distribution in Kayamandi.

The CIACS (2004) testifies that crimes in the residential area of Kayamandi are mainly contact crimes such as murder, rape, assaults and robberies (including attempted robberies) against individuals. The majority of these crimes are liquor-related and occur at weekends in dense informal settlement areas (Business Intelligence Menu, 2004). Domestic violence, rape and sexual abuse of children are contact crimes that tremendously influence the mental and physical safety of women and children in their living areas, as illustrated in paragraph 4.5.1.

The second most recurrent crimes are property-related crimes such as burglaries, motor vehicle theft and theft of objects from vehicles.

4.5.1 Crime against Women and Children

Three main forms of violence, namely domestic violence, rape and sexual abuse of children are discussed below. These forms of violence are not only assumed to have an impact on the general health of women and children, but are also risk factors contributing to the increasing prevalence of HIV in South Africa (known as the ‘Twin Epidemic’).

4.5.1.1 Domestic Violence

From September 2002 until August 2004, 28 cases of domestic violence were reported. The majority of the cases occurred in squatter areas in Kayamandi. The most frequent forms of violence were kicks, strikes, omit, and abusive language and the use of sharp objects. Victims were mainly women and children (Business Intelligence Menu, 2004). Five cases of physical child abuse were connected to domestic violence (kicks, strikes) and neglected/illegal treatment of children (0-18 years) (Business Intelligence Menu, 2004).

4.5.1.2 Rape and Child Sexual Abuse

From April 2002 until March 2003, 52 425 cases of rape and attempted rape were reported to the South African Police nationally (Rape Crisis, 2005). In Kayamandi, 33 cases of rape by strangers were reported from September 2002 until August 2004. These incidences mainly occurred in densely populated and informal areas and/or in areas adjacent to the police station. All victims were female and forced to have sexual intercourse concomitant with physical violence (they were held down) or other objects (including guns). The mean age of rape survivors was between 12 and 30 years (Business Intelligence Menu, 2004)¹³.

According to the national statistics at the time, girls under 18 were particularly vulnerable to rape, constituting approximately 40% of reported rape and attempted rape cases nationally, with 12 to 17 year-olds reflecting the highest rape ratio per 100 000 of the female population (Human Rights Watch, 2004b). In their book *Sexual Abuse of Young Children in Southern Africa* Richter, Dawes, and Higson Smith (2004) support the findings, that approximately 15% of all rapes involved children under 12 years and that 41% of cases involved children 18 years or younger. In Kayamandi eight cases (24% of all rape cases) of child sexual abuse (0-

¹³ The statistics only include rape between two strangers. Rape in a relationship, rape of men, oral rape and rape with objects are excluded from these statistics (Rape Crisis, 2005).

18 years) were registered from September 2002 until August 2004. In four of all cases (12%) the victims were between 9 and 12 years of age (Business Intelligence Menu, 2004).

The results on child rape in Kayamandi are somewhat different from national findings. Available statistics should be interpreted with care since they only include rape by strangers; international scientific results in this field conclude that most incidences of sexual abuse occur by someone known to the child (Richter et al., 2004). The reality is likely to be a lot worse than official statistics confirm.

In conclusion, violence against women and children in Kayamandi most often occurred in three informal settlement areas and dense squatter areas. Furthermore, these areas are characterised by a high poverty rate whilst a multitude of social and health problems go unpunished and unnoticed. Finally, there is strong evidence that the statistics on domestic violence, rape and sexual abuse of children do not reflect the actual situation in Kayamandi. The following section shall clarify this assumption.

4.5.2 Indications for High Crime Dispersal

In general, reporting of all crimes to the police is low in South Africa. The reporting of rape as a highly feared and stigmatised crime is particularly low. Rape Crisis (2005) assumes that only one out of 20 cases of rape and/or sexual abuse, including sexual abuse of children, is reported to the South African Police. Reasons why people do not report crime to the police are manifold and include social and cultural factors, e.g., financial dependence of women on their husbands or stigmatisation of rape victims and people living with perpetrators.

According to CIACS information, most crimes occur overt weekends and at night. People state that during these periods a state of emergency dominates the atmosphere in Kayamandi with little police supervision, especially at night. Residents, especially women, try not to leave their houses or walk around the area at night since the narrow and dark pathways between shacks are where sex-related attacks happen (Figure 4.6). This situation is life-threatening to women and a limitation to their personal freedom and safety.

Although, there is a small police station in Kayamandi, which is supervised by two police officers inside the station and two on motorised patrol, most of the residents reported that they were not aware of the police station or preferred to address the police station in Cloeteville. Despite this lack of information, the reality is that the South African Police do not have a good reputation within South African society due to their involvement in torture and violence against civilians during Apartheid as well as recent incidences of corruption in the police system. In addition, race-consciousness is still very apparent in South Africa. Police officers

in Stellenbosch belong mainly to the coloured and white communities and the trust of the black community in police officers in town is therefore low.

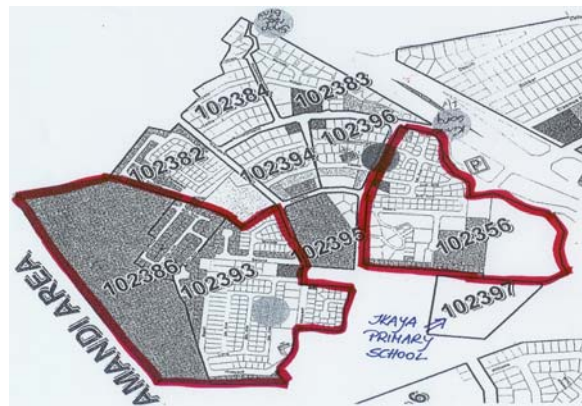


Figure 4.6. Crime Distribution in Kayamandi (Stellenbosch Police, 2004, Map does not reflect Actual Structure, red marks illustrating areas with highest crime rates).

As a result of historic events and the reasons mentioned above, the South African society in general, and the Kayamandi community in particular, operates by two judicial systems: One system executes official law and order; the other its own moral and vigilante judicial system that punishes crime without using government institutions. The latter is present mainly in townships and rural areas.

4.6 Educational Status of the Population

The educational level of the Kayamandi population is considered to be extremely low and the number of persons leaving school with a proper qualification is unsatisfactory. In 2001, a survey by the University of Stellenbosch asked persons about their highest level of education. Two percent (2%) had never participated in any formal education; 20.2% had completed a primary school education (Grade 7/Standard 5). A high drop-out rate is prevalent at high-school level, with only 14% of the people interviewed completing Grade 12 (Standard 10). Only 1.9% studied at university and obtained a degree/postgraduate degree (US, 2001).

The low level of education can partly be attributed to educational restrictions imposed on the black population during Apartheid, when black people attended poorly-equipped schools often with teachers who receive a minimum on up to date educational training. At that time, the goal of the educational system was to educate black people for occupations in low qualified jobs. Presently in South Africa the social and financial status of the individual

defines his/her access to high-quality educational institutions (see also 4.6.2). More recent statistics on the educational level of the population in Kayamandi are not yet available.

4.7 Existing Infrastructure

In comparison with the town of Stellenbosch, the infrastructure of Kayamandi is considered insufficient as health care, social services, educational institutions and municipal services are underrepresented compared with the number of residents. An independent study by Dennerlein and Adami (2004) on a new town planning concept for Kayamandi portrayed the large discrepancy between existing and required public and social facilities. A new concept is needed to fulfil internationally standardised measures for town (-ship) structures (Dennerlein & Adami, 2004).

4.7.1 Health Sector

Two different medical or health systems are present in Kayamandi. The first is based on a western approach represented by a community clinic and one private doctor. The other medical system is represented by traditional medical approaches as practised by traditional healers (diviners, herbalists, and faith healers). People in Kayamandi tend to use both medical spheres in the belief that there should be a balance between the mental/physical being, the environment, and the spiritual world (ancestor belief).

The Community Clinic, prescribing western medicine, provides primary care services to 4 000 patients per month. Eleven nurses, health counsellors and health promoters work at the clinic. The nurses provide primary health care services including a cure service (children and adults), immunisation services, antenatal services, family planning services, TB treatment and counselling, and care for chronically ill patients (high blood pressure, epilepsy, diabetes, asthma). Special health programmes include the Mother-to-Child-Transmission-Programme, PEM-Scheme-Programme (food supplement to HIV-positive mothers and their babies as well as malnourished children), a Counselling Service (STIs, TB), a Health Promotion Service that teaches oral hygiene at primary schools and a Sex Awareness Programme at high-school level for which the schools have to apply. The study on town planning came to the conclusion that at least five primary care clinics and one hospital (secondary health care) have to be established in Kayamandi to cover the health requirements.

4.7.2 Educational Sector

The overcrowded educational institutions in Kayamandi present a problem. Only one primary and one secondary school offer primary education for children and youth until the age of 18.

4.7.2.1 The Case of Ikaya Primary School

The Development Action Group (2002) estimated that most school children who live in Kayamandi attend schools within walking distance, e.g. Ikaya Primary School and Kayamandi High School. A few children attend schools in Cloetesville and Stellenbosch or commute by train to schools in Paarl and Cape Town (Development Action Group, 2002). The Ikaya Primary School (translated as ‘nice school’), the only primary school in Kayamandi, primarily accommodates children from disadvantaged black population strata within the community. In 2004, 1 700 learners and 33 teachers (including one principal, two deputy principals and five HODs) were registered at the school. The number of learners per class varies between 45 and 60, with a teacher-learner ratio of 1 to 52, including the principal and the two deputy principals.

The Ikaya Primary School opened in 1995 as a public school and is located on the east side of the township in a former industrial area. The school building is built in a Spartan fashion with two elongated buildings surrounding a courtyard paved in concrete (Figure 4.7). The school is surrounded by a high wire-netting fence with an automatically operated iron gate as the main entrance. The learners are accommodated in 32 classrooms in two brick buildings and three prefabricated buildings. The classrooms all have a similar size, height and number of windows. The classrooms are poorly equipped and many classes are short of chairs and tables. The school does not have a playground, a gym, science laboratories, a school hall or a library¹⁴.

The sanitation can be described as critical, overburdened, and most often not in working condition. Vandalism, break-ins and violent arguments between learners are the most frequent forms of crime. Vandalism is directed at school facilities (windows) and furnishing. The school fence is destroyed on a regular basis by neighbouring residents looking for a short-cut between living areas. This in turn creates a security risk. Break-ins involve the theft of test results, video equipment and computers. Violent arguments occur mostly among learners in higher grades. Therefore, the school atmosphere can be described as authoritarian. Corporal punishment by teachers usually involves beating on hands and backs with a stick. To sum up,

¹⁴ Since the middle of 2005, the school has been part of the EQUIP programme, a business-based organisation managed by the National Business Initiative (NBI). This initiative, in cooperation and in accordance with the needs of the specific school, implements sports and leisure time activities on the schoolyard.

Ikaya Primary School is an overcrowded learning environment with individuals of diverse social, health and psychological backgrounds, most often overburdened by adults and teachers.



Figure 4.7. School Building – Ikaya Primary School (Bicher, 2005).

Future plans of the Department of Education to improve the educational system in Kayamandi include a restructuring of the system. A School for Further Education and Training that would accommodate Grades 10 to 12 is currently being built. Kayamandi High School will become the secondary school accommodating Grades 7 to 9. The primary school will accommodate all children from Grades 1 to 6.

Considering actual school attendance, it is unclear whether restructuring will improve the educational infrastructure. According to the US survey from April to May 2001 23.6% of the total population were between 5 and 14 years old. This figure more or less coincides with the figure of 22% (of children between the age of 5 and 14 years) as reflected in the national census of 2001 (Statistics South Africa, 2001). With reference to information from school clinics in Stellenbosch, approximately 900 learners attend schools outside Kayamandi in Cloeteville, Idasvalley, the surrounding areas of Stellenbosch and private schools. Of the 28 000 people living in this township, 6 608 children possibly at primary school age, with only 1 700 learners registered at the primary school. The resulting question should be: How many children in Kayamandi do actually not attend school at all?

Dennerlein and Adami (2004) estimated that at least eight primary schools and five secondary schools would be needed to meet the actual requirement of basic education in Kayamandi. Another demand is the establishment of a centre for illiterate adults and children with learning problems. Due to the low educational level illiteracy is expected to be high,

especially within the adult population born during Apartheid and among those that have migrated from rural areas with lesser access to educational facilities.

4.7.3 Public Institutions

The public institutions in Kayamandi include a small council office, a recently opened public library and a police station. Younger children use mainly the library and its green area to do their homework or to spend their spare time. To satisfy the demand, however, two more libraries are needed (Dennerlein & Adami, 2004). A post office was recently opened under supervision of a non-governmental organisation (NGO). A taxi rank is located adjacent to the police station, with a highly frequented crossroads at the main entrance of Kayamandi. This area is considered dangerous and risky for pedestrians. What is needed, at least, is a restructuring of the entrance to Kayamandi and the erection of a bus station (Dennerlein & Adami, 2004).

4.7.4 Social Service Sector

The following governmental and non-governmental social services targeting different groups are represented in Kayamandi:

The *Child Welfare Organisation* is a non-governmental organisation that promotes, protects and enhances the safety, well-being and healthy development of children (Child Welfare South Africa, 2005). The Kayamandi Child Welfare Office employs two social workers who are responsible for 28 000 inhabitants. The office has a high staff turnover because of low income, high work load and low levels of qualification; factors that add to the easy burn-out of the social workers.

The *Ikamva Lehtu Centre* (translated as ‘our future’) incorporates both a youth centre and an AIDS Awareness Resource Centre where older youth, especially male youth meet to play pool, billiard or table tennis, and where they are peer educated on HIV/AIDS. The centre cooperates mainly with the secondary school in Kayamandi. One manager and two assistants are employed. According to Dennerlein and Adami (2004), at least five more youth centres are needed to meet the demand.

Prochorus, a religious non-governmental organisation, offers programmes in emergency relief, feeding with Skim, school fee sponsorships by foreign donators for poor children, job creation and a street kids programme. Nine people are employed at Prochorus.

In addition, individuals or donators from overseas contribute to increase services. One example is the established NGO *Bridge the Divide – Greater Stellenbosch Development Trust*

that runs a new project for after-school care and job recreation. After-school care is extremely important for the protection of children while their parents are at work. Another very impressive initiative by an unemployed lady known only as Maria is a day-care centre that accommodates up to 150 children a day. This woman convinced the Stellenbosch Municipality to allow her to use the town hall in Kayamandi (built in 2003, and rarely used) for the day-care centre on a rental basis.

Other urgently needed social services are an alcohol prevention centre, since alcohol addiction among the adult population is high and causes numerous problems that affect family life (e.g. domestic violence) and child health (e.g. link between malnutrition and alcohol consumption of parents); a family crisis centre; an AIDS hospice and a rape and violence crisis centre. Apart from Child Welfare, no other professional social service organisation in Kayamandi works exclusively with children of primary school age or younger, and the demand is indeed great.

4.7.5 Informal Business Sector

Approximately half of the population of Kayamandi is not employed in the formal sector and try to make a living through participation in the economically vital informal sector (PTT, 2004). In the year 2000, Kayamandi accommodated 179 informal businesses including 72 spaza shops (small shop), 42 fruit and vegetable shops, 29 shebeens (informal taverns in private homes), fifteen barbers and hairdressers, nine butchers, seven street-sellers and five repairmen. In addition, there were beer brewers, milk-sellers, herbalists, healers, builders and photographers (Erhard, 2000).

Two thirds of the informal business sector operates from huts within the informal settlement areas. The big market centres are located exclusively in Stellenbosch and usually close at 8 pm. Most spaza shops trade between 6 am and 10 pm and cater for workers on their way to work or returning after a long working day (Erhard, 2000). Erhard (2000) argues that these trading hours support and reinforce a system of long and unsociable working-hours. Consequently, the majority of residents do their main shopping in central Stellenbosch. The central mode of transport is the taxi, with one-way tickets costing R6 per person. Kayamandi is in urgent need of a market place where sellers can work in suitable facilities and where the products on offer can be quality controlled. Building such shopping areas also means improving the sellers' professional qualifications and expanding their businesses.

A tourism centre for overseas visitors is presently being built at the entrance to Kayamandi. The ethics involved in the exposure of poor living conditions to affluence is questionable. In

addition, it can be assumed that a conflict-stricken community will become more unstable and divided: On the one hand those groups that will make a living out of tourists and tourist tours through the area, and on the other hand those that will be excluded from the new market and be left feeling caged (see also Campbell, 2003).

4.7.6 Community and Recreational Sector

Kayamandi has no assembly points, market places or small parks for recreational purposes. Particularly important for the improvement of the infrastructure is a place where small businesses can settle. The architects Dennerlein and Adami (2004) suggest that at least six urban squares and public spaces, three park recreational areas, two sports fields and five playgrounds have to be included in a discussion of a new township structure.

4.7.7 Religious Institutions

The infrastructure of the religious sector in Kayamandi is well established, with approximately 50 church buildings representing several religions (e.g. Christian churches and traditional African Christian churches).

4.8 Conclusion

In January 2002 South African officials signed the Johannesburg Declaration on Health and Sustainable Development. The declaration calls on health issues or determinants that affect health which can only be solved by national and international cooperation:

Paragraph 19: We emphasize that many of the key determinants of health and disease – as well as the solutions – lie outside the direct control of the health sector, in sectors concerned with environment, water and sanitation, agriculture, education, finance, employment, industry, mining, urban and rural livelihoods, trade, tourism, transport, energy and housing. We draw attention to the fact that health issues are frequently inadequately considered when development decisions are made. We reaffirm that addressing the underlying determinants of health is key to ensuring ecologically sustainable development and sustained health improvements in the long term, whilst further recognising that much progress has been made in forging closer links between health and other sectors. (WHO et al., 2002)

Despite the South African agreement to this international legislation, it needs to be realised that South Africa remains a country characterised by dramatic social inequalities (Campbell,

2003) reflected in a community such as Kayamandi. The impact Apartheid had on the material level is worst in disadvantaged communities like Kayamandi where it affected housing, income, access to resources, educational opportunities, access to employment, lifestyle, access to leadership positions, and the right to practice one's own culture, amongst others (Skinner, 2000). Nowadays, with legal political representatives of the community in the town councils, only hesitant actions are taken towards building a healthy community.

Kayamandi is a concentration of the poorest strata of the population of Stellenbosch. The township comprises more than 28 000 residents living on 7.5 ha¹⁵, with a migration flow of 150 new people every month. An extension of the area is planned but the process is slow. More than two thirds of the settlement area consists of informal housing units such as shacks. The risks to individuals living in the township are diverse, in particular the environmental conditions and the physical layout of the area that cause a series of health risk factors. The township lacks a well-planned architectural structure, e.g. streets, open spaces, sports ground and playgrounds. The chaotic and unplanned structure prevents not only a supportive community life but generates disciplinary and social issues. The densely populated informal settlement areas and the lack of sewerage systems and controlled electricity systems cause risks to human life. Child safety involves traffic and hygienic living conditions; dense living environments pose special risks to their health. Basic requirements like access to water, shelter, knowledge, health care, employment and other productive resources directly influence the risk that individuals and households run of being threatened by poverty (PGWC, 2001).

The households in Kayamandi most vulnerable to poverty, insecurity of tenure and inadequate living conditions are those in informal settlement areas that are characterised by single-parent (mostly female) family units with children, high unemployment rates and an average monthly income of less than R1 500 (Development Action Group, 2002). To meet basic needs, e.g. food, clothing and housing, the average Kayamandi household (consisting of three persons¹⁶ and earning R1 000 per month) has to make do with R11 per day. Poverty is a pronounced problem for households headed by single females with children of primary school age. While unemployment is over-proportionally prevalent in young people, who often have minimal life and work ambitions due to their limited education, most employed residents work as unskilled workers in low-wage jobs. In other words, wide segments of the population

¹⁵ In 2005, the town council of Stellenbosch bought more land to the northern upper side of Kayamandi. It has not yet been developed.

¹⁶ In 27% of the households there are two and more people, and in more than half of the households (53.5%) there are three and more persons dependent on one income (US, 2001).

living in Kayamandi are especially vulnerable to poverty, since a low or irregular income contributes to malnutrition and starvation.

As chapter 4 clearly indicates, health, social and environmental hazards are widespread, increasing the number of factors that negatively influence the physical health and mental status of each individual in the case study community. These findings should be considered in recommending the need of health-promoting intervention working with different target groups and incorporates a magnitude of health topics in the community of Kayamandi.