

***TITLE: DELIVERY OF ENVIRONMENTAL
HEALTH SERVICES TO DUCATS
INFORMAL SETTLEMENT***

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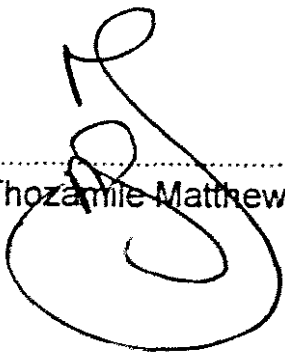
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**Thesis submitted in fulfilment of the
requirements for the Masters Degree:
Environmental Health in the School of Applied
Sciences at the Cape Technikon.**

Date: 25 March 2003

DECLARATION

I declare that this thesis is my own work. It has not been submitted for any diploma, degree or examination at any other institution. The opinions and conclusions drawn are not necessarily those of the Cape Technikon.


.....
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.....24/03/2003.....
Date

ACKNOWLEDGEMENTS

I would hereby like to thank my wife, Cornelia and children Mawande, Ayanda, Lusanda and Thozama for their love and understanding.

I have derived considerable benefit and ideas from Professor Lionel Slammert who was willing to discuss the Environmental health matters and management techniques. The writing of this thesis was a team effort and I particularly wish to thank Lawre Kalis for helping with the coordination of the research data.

SUMMARY

This study provides information on the provision of environmental health services to informal housing settlements by local authorities.

A standard for Environmental Health Service delivery according to Government policies and legislation has been provided. Actual environmental health services delivered to Ducats informal settlement at the time (1992), have been compared to the services that should have been delivered by law.

Baseline data have been compiled by means of questionnaires, in order to assist the different levels of government in addressing the housing and environmental health needs of the Ducat community.

The nature of Environmental Health and the history of informal housing, more specific that of the Ducat informal housing settlement, have been determined.

Limited environmental health services were rendered to informal housing settlements occupying land illegally during 1992. These environmental health services were limited to basic sanitation, water supply and refuse removal. Only pit latrines or bucket latrines were required as a means of sanitation, tanks for water supply and skips for the disposal of waste.

Amatola Regional Services Council however rendered all the environmental health services required.

Other environmental health aspects such as pest control, communicable disease control, air pollution control, radiation, occupational health issues, temperature extremes, lighting, ventilation, noise, social environment, food and meat hygiene were not required.

This study has provided a set of Government policies and legislation, which should be considered in rendering environmental health services for housing in future.

Uncertainty of the past decade, about rendering of Environmental Health services to people occupying land illegally, still persists. The Municipal Structures Act, 117 of 1998 requires the rendering of Environmental Health services by local authorities, but it does not state whether these services should be rendered to people occupying land illegally as well. Since this has been the biggest restriction in providing environmental health services in the past, it is recommended that Government address this uncertainty.

INDEX

CHAPTER 1: NATURE AND EXTENT OF THE STUDY: DELIVERY OF ENVIRONMENTAL HEALTH SERVICES TO DUCATS INFORMAL SETTLEMENT

1.1	INTRODUCTION	1
1.2	LEADING QUESTION	2
1.3	STUDY DESIGN	2
1.4	CONTEXTULIZATION	2
1.5	STUDY OBJECTIVE	2
1.6	PROBLEM STATEMENT	3
1.7	METHODOLOGY	3
1.8	DEFINITIONS	4
1.9	SUMMARY	7

CHAPTER 2: HISTORIC OVERVIEW OF ENVIRONMENTAL HEALTH SERVICES DELIVERY TO THE DUCATS COMMUNITY AND SET STANDARDS

2.1	INTRODUCTION	8
2.2	THE ENVIRONMENTAL HEALTH DISCIPLINE	8
2.3	HISTORIC DEVELOPMENT OF INFORMAL HOUSING SETTLEMENTS IN SOUTH AFRICA	11
2.4	HISTORIC DEVELOPMENT OF THE DUCATS INFORMAL HOUSING SETTLEMENT	19
2.5	RECENT UPGRADING OF THE DUCAT COMMUNITY	20
2.6	SOUTH AFRICAN GOVERNMENT POLICIES ON STANDARDS OF ENVIRONMENTAL HEALTH SERVICES DURING 1992	22
2.6.1	Responsibility of local authorities with regard to service delivery at temporary transit areas – under the Enforcement of the Prevention of Illegal Squatting Act, 52 of 1951	22
2.7	SUMMARY	24

**CHAPTER 3: DATA COLLECTED ON ENVIRONMENTAL HEALTH SERVICES
DELIVERED TO DUCATS INFORMAL HOUSING SETTLEMENT**

3.1	INTRODUCTION	25
3.2	METHOD	25
3.2.1	Demarcation	26
3.2.2	Population	26
3.2.2	Structure of the questionnaire	26
3.3	DELIVERY OF ENVIRONMENTAL HEALTH SERVICES BY THE LOCAL AUTHORITY TO THE DUCATS INFORMAL HOUSING SETTLEMENT BETWEEN 1992 AND 1994.....	27
3.3.1	Environmental Health Services	27
3.3.1.1	Sanitation	27
3.3.1.2	Storm water	28
3.3.1.3	Water.....	28
3.3.1.4	Waste/Refuse Removal	28
3.3.1.5	Air Pollution	29
3.3.1.6	Housing	29
3.3.1.7	Control of Vermin and Vectors	29
3.4	BASELINE DATA: DUCATS COMMUNITY IN 1996.....	30
3.4.1	Population	30
3.4.2	Employment age distribution	30
3.4.3	Gender/Sex distribution.....	32
3.4.4	Employment status.....	32
3.4.5	Monthly income of family households	33
3.4.6	Marital status	34
3.4.7	Water.....	35
3.4.8	Sanitation	37
3.4.9	Storm water	38
3.4.10	Solid waste	38
3.4.11	Housing	38
3.4.12	Recreational amenities.....	39
3.4.13	Air pollution control.....	40
3.5	SUMMARY	41

CHAPTER 4: COMPARISON BETWEEN ENVIRONMENTAL HEALTH SERVICES REQUIRED BY LAW AND THOSE RENDERED BY THE RELEVANT LOCAL AUTHORITY TO DUCATS INFORMAL HOUSING SCHEME

4.1	INTRODUCTION	42
4.2	ENVIRONMENTAL HEALTH SERVICES RENDERED TO DUCATS BETWEEN 1992 AND 1994 IN COMPARRISON TO SERVICES THAT SHOULD BE RENDERED ACCORDING TO LAW AND GOVERNMENT POLICIES	42
4.2.1	Water	43
4.2.2	Sanitation	44
4.2.3	Refuse	45
4.3	SUMMARY	46

CHAPTER 5: RECOMMENDATIONS TRANSPIRING FROM THE RESEARCH FINDINGS

5.1	INTRODUCTION	47
5.2	TRANSFORMING DUCATS SERVICE DELIVERY	47
5.2.1	People Must Come First	47
5.1.2	Measurements to facilitate the Ducats development	49
5.3	ENVIRONMENTAL HEALTH SERVICE DELIVERY	54
5.3.1	Water	54
5.3.2	Sanitation	57
5.3.3	Housing	60
5.3.4	Waste disposal	62
5.3.5	Waste water disposal	63
5.3.6	Social environment	65
5.3.7	Air	66
5.3.8	Pollution control	67
5.3.9	Pest control	68
5.3.10	Disease control	68
5.4	LEGISLATION AND GOVERNMENT POLICIES TO BE CONSIDERED IN THE MANAGEMENT OF FUTURE HOUSING ISSUES IN SOUTH AFRICA	69
5.4.1	The Constitution of the Republic of South Africa Act No. 108 of 1996	69
5.4.2	The Health Act, 63 of 1977	71
5.4.3	The National Health Bill of 2001	76
5.4.4	Water Services Act No. 108 of 1997	76
5.4.5	The White Paper on Basic Household Sanitation of September 2001	77
5.4.6	White Paper for the Transformation of the Health Systems in RSA	77
5.4.7	Regulation R.21 of 2000: Regulation to Control of Environmental Conditions Constituting a Danger to Health or a Nuisance	78
5.4.8	Environmental Conservation Act No. 73 of 1989	78

5.4.9	The Water Act No. 54 of 1956.....	79
5.4.10	The Housing Act No. 107 of 1997	79
5.4.11	The Atmospheric Pollution Prevention Act No. 45 of 1965	79
5.4.12	The National Environmental Management Act No. 107 of 1998	80
5.4.13	The Hazardous Substance Act No. 15 of 1973.....	80
5.4.14	The White Paper on Transforming Service Delivery.....	81
5.4.15	The Development Facilitation Act No. 6 of 1995.....	81
5.4.16	The Less Formal Township Establishment Act No. 113 of 1991.....	83
5.4.17	Local Government Municipal Structures Act No. 117 of 1998	83
5.5	CONCLUSION.....	83
5.6	RECOMMENDATIONS	85

BIBLIOGRAPHY.....	86
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CHAPTER 1

1 NATURE AND EXTENT OF THE STUDY: DELIVERY OF ENVIRONMENTAL HEALTH SERVICES TO DUCATS INFORMAL SETTLEMENT

1.1 INTRODUCTION

The study is aimed at assessing environmental health service delivery to the Ducats informal settlement. This is done by comparing the available service with the required standards, which are set in the relevant government policies and statutory documentation. These Environmental Health Services included health conditions for the poorest of the poor, such as the availability of formal housing; drinking water services; sanitation, storm water services; social amenities, environmental pollution and pest control.

The research methodology employed during this study consists of references to primary sources, interviews and by making use of questionnaires.

A backlog of environmental health services, as well as a lack of reliable data on environmental health service delivery existed. This made an evaluation of environmental service delivery during the previous government impossible.

Chapter one is an introduction to the study. Chapter two provides an historical background, and set standards for environmental health service delivery. In chapter three data is collected on the state of environmental health service delivery to the Ducats informal housing settlement. Chapter four is a comparison between the findings (service delivered) and the Standards. The last chapter consists out of conclusions and recommendations.

1.2 LEADING QUESTION

Has Environmental Health Services delivery to the Ducats Informal Housing Settlement been according to legislation and government policies?

1.3 STUDY DESIGN

This is a descriptive survey, comparing existing environmental health service delivery to required service delivery (required by legislation and government policies).

1.4 CONTEXTUALIZATION

This study is classified as a medical science, since environmental health is a discipline of medical science.

1.5 THE STUDY OBJECTIVE

- 1.5.1 To determine which environmental health services were expected to be delivered to the Ducats community during 1992 - 1994.
- 1.5.2 To determine the nature and extent of environmental health services delivered to the Ducats informal housing settlement between 1992 and 1994 by the relevant local authority according to South African legislation & policies.
- 1.5.3 To establish baseline data for the Ducats informal housing community.

1.6 PROBLEM STATEMENT

The Ducats community has received property tenure and all the necessary environmental health services as prescribed by legislation and government policies since the start of the new millennium.

The local authority has however been blamed for not providing sufficient environmental health services at the onset of the Ducats community in 1992. No data were available on the extent of this informal housing settlement.

1.7 METHODOLOGY

The data were obtained by means of questionnaires. All the dwellings were included in the study. There were a total number of 1214 dwellings, housing 5459 family members. This study commenced in April 1998.

1.8 DEFINITIONS

1.8.1 HEALTH

The term 'health' is defined by the World Health Organisation as a condition of complete physical, mental and social well-being and not merely the absence of disease or infirmity (Benson, 1980:24). The researcher is of the opinion that this definition of health only refers to personal health issues, since well-being does not refer to environmental issues such as water, waste and air. This definition therefore does not include environmental health services.

1.8.2 PERSONAL HEALTH SERVICE

A personal health service is defined by the *Health Act, 1977* (see section 1 xxviii) as a health service that is aimed at the examining and treating medical conditions.

According to the *Guide to the Health Act (1978:8)* services rendered by local authorities is divided into personal and non-personal services. Personal health services include pre- and ante-natal clinic services, family planning clinics, geriatric clinics, psychiatric clinics and the control of contagious diseases.

1.8.3 NON-PERSONAL HEALTH SERVICE

According to section 1 xxiii of the *Health Act, 1977* non-personal health service is defined as a service other than personal health services.

The *Guide to the Health Act (1978:8)* describe non-personal health service as the provision of water, the treatment of water, sanitation and the removal of sewage, removal of solid/fluid household or commercial

waste, air pollution, food hygiene, housing, noise control, pest control, radiation, cemeteries, recreation facilities and the prevention of accidents (safety).

1.8.4 ENVIRONMENTAL HEALTH

Amegee & Larty (1973:8) defines environmental health as follow:

Environmental Health is all those factors in mans physical environment, which have an effect, or could have a detrimental effect on mans physical, mental and social well-being. These authors include the following in their description of environmental health: Sanitation, water provision, housing, food hygiene, pest control, vector control, air pollution control, and occupational hygiene.

The World Health Organization adds the following to the previous description of Environmental Health: Pathological reaction of chemicals, radiation, biological agents, town planning, transport and land use (Environment and Health - The European Charter and Commentary, 1989: 18).

Purdon (1980:5&6) adds another dimension to environmental health, namely the quality of life in the form of esthetical issues and an environment that serves mans social needs (recreation).

1.8.5 UNLAWFUL OCCUPIER

A person who occupies land without the express or tacit consent of the owner or person in charge, or without any other right in law to occupy such land, excluding a person who is an occupier in terms of the informal right to land, but for the provisions of this Act, would be protected by the provisions of the Interim Protection of Informal Land Rights Act, 1996 (Act No. 31 of 1996).

1.8.6 SQUATTERS

Spontaneous, unplanned residential neighbourhoods without legal title to land (people who inhabit land illegally). Squatters are primarily the responsibility of the owner of the land. If land is not earmarked as a residential area, people could be classified as squatters, even though they have permission to live on the land (Gunning, 1992:13).

1.8.7 INFORMAL HOUSING SETTLEMENTS

Informal Housing Settlements are not per se people who are occupying the land illegally. Government should enable people to house themselves in an informal, but legal way. It is not Governments duty to provide houses to all people (Gunning, 1992:12).

1.8.8 HOUSING DEVELOPMENT

"The establishment and maintenance of habitable, stable and sustainable public and private residential environments to ensure viable households and communities in areas allowing convenient access to economic opportunities, and to health, educational and social amenities in which all citizens and permanent residents of the Republic will, on a progressive basis, have access to:

- (a) Permanent residential structures with secure tenure, ensuring internal and external privacy and providing adequate protection against the elements; and
- (b) Potable water, adequate sanitary facilities and domestic energy supply." (Housing Act 1997 section 1(vi)).

1.8.9 SHACKS

An informal housing structure usually constructed by using unconventional building materials (e.g. corrugated iron, wood, plastic, carpets, etc.).

1.8.10 SHANTYTOWNS

Unplanned residential zone usually located on the fringe of the city, lacking most amenities.

1.8.11 SITE AND SERVICE

Site and service projects refer to projects where people only receive or buy a site and basic services. The construction of the housing unit is the responsibility of the owner.

1.8.12 SELF-HELP HOUSING

Self-help housing refers to housing where the owner controls the building process mainly through constructing it himself or herself.

1.9 SUMMARY

The aim of the first chapter was to provide an introduction to the thesis in order to describe the various sections of the thesis. The next chapter will provide a historic overview of Environmental Health and the Ducat informal settlement. Chapter two will also set the standards for Environmental Health services delivery according to the laws and policies of South Africa.

CHAPTER 2

2 HISTORIC OVERVIEW OF ENVIRONMENTAL HEALTH SERVICE DELIVERY TO THE DUCATS COMMUNITY AND SET STANDARDS

2.1 INTRODUCTION

The first chapter provided an introduction to the study. This chapter will determine the nature of environmental health and will also provide a historic overview of informal housing settlements in South Africa, and more specific that of the Ducats Informal Housing Settlement. This chapter will also set standards for environmental health service delivery according to the Laws and Policies of South Africa.

2.2 THE ENVIRONMENTAL HEALTH DISCIPLINE

The researcher has found the following definition of environmental health, proposed by the World Health Organization 1993, to be the one most suitable:

"Environmental health comprises those aspects of human health, including quality of life, that are determined by physical, biological, social and psychosocial factors in the environment. It also refers to the theory and practice of assessing, correcting, controlling and preventing those factors in the environment that can potentially affect adversely the health of present and future generations."

Environmental health involves those aspects of public health concerned with the factors, circumstances, and conditions in the

environment or surroundings of humans that can exert an influence on health and well-being.

Environmental health provides the basis of public health.

Improvements in sanitation, drinking water quality, waste management, food safety, disease control, pest control, pollution prevention (Air, water, noise, radiation), occupational health, and housing conditions have been central to the massive improvement in quality of life and longevity experienced in this decade. Environmental health also addresses emerging health risks arising from the pressures human development places on the physical environment through projects being implemented.

The environmental health discipline has a vision of optimum environmental health services, which is "healthy communities in health environments". This describes very simply the link between healthy environments and healthy populations and communities.

In order to improve environmental health policy development and evidence-based decision-making, the Environmental Health is currently contributing to a process to develop environmental health indicators and improve the knowledge base for environmental health.

In view of the multidimensional and multidisciplinary nature of the interactive process between the environment and health, the Integrated Environment Health Management Strategy should interface with all sectors, which play a role in environmental health risk reduction.

Existing mechanisms for intersectoral collaboration such as the *Interdepartmental Liaison Committee of the Department of Health and Water Affairs and Forestry*, and the *National Sanitation Task Team* may be utilized to promote intersectoral action.

The distribution of environmental health services may be based on community needs, and related risk assessments as they impinge upon the quality of physical and social environments, environmental health service interventions including the promotion of clean water, adequate *sanitation provision and food safety* will be aimed at addressing needs and reducing the associated risk on a *prioritized basis*.

The environmental health sector is responsible for the provision of accessible services and support communities in managing environmental health risks. Ultimately, however, each individual is expected to take responsibility for the maintenance of a healthy environment.

A community development approach rather than a law-enforced approach may be followed in creating environmental conditions conducive to good health.

2.3 HISTORIC DEVELOPMENT OF INFORMAL HOUSING SETTLEMENTS IN SOUTH AFRICA

The first gold was found in the Witwatersrand in 1886. Johannesburg developed into the gold mining center of the world. Much labor was needed to extract the gold. The European colonizers followed a gradual policy of exclusion of the non-white population. The progression from the Act of Union in 1910 to the Natives' Trust and Land Act of 1936 culminated in the establishment of Apartheid in 1948. The most distinct policy of Apartheid was a land division that allocated a mere 13% of the country to 80% of the population, the black contingent (EPIIC, 2000:2)

The South African Government erected low-cost township houses between 1940 and 1950 in response to increased urban employment opportunities created by white men engaged in World War 2 (Stephens & Rule, 1998:2). Between 1950 and 1960 the strengthening local economy attracted more Africans to the cities, although influx control reduced the rate of urbanization (Parnell, 1997).

The presence of Africans in towns was strictly controlled by the Government since 1948. This included the restriction of freehold tenure of houses in townships 30 years in the early 1950s, and its abolition altogether in 1968. Africans were forced to rent their houses from the state. Pass laws and influx controls restricted the movement of Africans from rural areas. Many of the Black laborers lived in hostels built by the

government. There was rarely an opportunity to gain formal ownership of property. Instead the workers were given occupation certificates to prove their legal, alternative residence outside of the homelands (EPIIC, 2000:2). The Prevention of Illegal Squatting Act of 1952 prevented the establishment of informal settlements.

Since 1968 Government policies required that Africans be settled in homelands. This terminated the construction of government houses for Africans in urban areas (Stephens & Rule, 1998:2). A response to the shortage of housing has been an increase in informal settlements.

Reforms had re-introduced leasehold ownership for Africans on a 30 year leasehold in 1975 and later a 99 year leasehold in 1978 (Parnell, 1992; Rule, 1993). Freehold ownership has been granted in 1985. Greater political tolerance allowed the expansion of informal settlements since 1980 (Stephens & Rule, 1998:3).

From 1990 steps were taken to initiate self-help housing and the provision of state land for low-income households (Harrison, 1992).

In 1994 the African National Congress adopted the Reconstruction and Development Program (RDP), which became the policy of the government. The RDP set a goal of 300,000 houses to be built a year with a million low-cost houses to be constructed within five years. In 1993 only about 50,000 houses were built (Knight, 2001:2). The urban backlog alone was estimated as at least 1.3 million units in 1994, which

meant that about 7.5 million people lived in informal housing such as shanties in squatter camps and back yards of Black townships houses. Today, millions of people still live in shanties and squatter camps. The government estimates that an additional 2 million homes are required to meet their needs. In the 1980s, as part of the struggle against apartheid, township residents organized rent and services payment boycotts (Knight, 2001:2).

The White Paper on Housing, published in December 1994, became governments housing policy since 1994. It stated the intention of the government to provide accommodation and basic services for all (Department of Housing, 1994, par. 4.2).

The strategy that has been adopted is based around the provision of a housing subsidy. This takes the form of a once-off payment, usually made to developers on behalf of households in a community. The subsidy can provide a household with a serviced site, or a serviced site with a rudimentary structure, or for a portion of the cost of a house or flat. In all cases, beneficiaries will own their home and the land it is built on, providing security of tenure. The initial amount of the housing subsidy granted varied from R5000 to R15000, depending on the level of household income (Tomlinson, 1998:140). Planning and financial decisions made by the private company are overseen by the local authorities and must receive consent from all involved parties, including the affected community.

The second type is an institutional subsidy. In this instance, an institution would apply to the government for a subsidy that would be used for the building of a housing structure consisting of apartments that are to be rented to informal settlers. There was a possibility after a four-year period that the tenants can formally own their apartment as property, if there is a majority consent.

The third kind of subsidy has been discarded due to complications such as corruption and inefficiency. Single-families applied to the local government or the department of housing for a subsidy. Once the housing subsidy was approved, the applicant moved onto this new plot.

In order to qualify for a subsidy one had to fulfill the following criteria:

- One has to be a South African citizen.
- You or a family member must have never owned property.
- Only one family unit may apply for a subsidy and may not have previously applied for one.
- One has to be over 21 years of age.
- One has to be under the age of 65.
- One has to earn less than R3500 a month.

The granting of a subsidy runs through a three-tier system of role players: The national, provincial and local municipality government. The national government allocates a certain amount of money to each province depending on population, size and urgency. Within the allocation, a specified percentage of the money must be spent on the

three main fields of social expenditure: Health care, housing, and education. Once the provincial government receives the money, it has absolute allocation power over the allotted funds in deciding the financial distribution to various projects, institutions, and individuals. Pertaining to housing policies, the local council acts as the main consultant to the province officials when discussing the allocation of subsidies. At the level of the local government a decision is made between two approaches towards development. Either a development firm is hired to professionally plan out the various steps that follow a granted subsidy, or it is pursued through governmental processes. It should be noted that the beneficiaries or the funds at no point receive the money in liquid assets, but only in form of property and houses.

Once the subsidy is granted, there are three project phases that run parallel to the applicant's income. The first phase entails the identification of a suitable piece of land for the development on which the beneficiary will receive a plot with a legal title. These subsidies are granted to settlers with an income level between R2501 and R3500. The second stage involves the implementation of the 'site and service.' This is the construction of a sewage system and water pipelines. Households earning between R1501 and R2500 qualify for this subsidy. Lastly, households earning up to R1500 receive a full subsidy, which includes the formal ownership of a plot, the site and service, and the construction of a house. Once this process is completed the full subsidy is worth R16000, the site and service subsidy is worth R10 000 and the legal entitlement subsidy worth R5500 (EPIIC, 2000:4-5).

The 1994 Housing White Paper estimated that the South African urban housing backlog was approximately 1,5 million houses, 720 000 serviced sites in urban areas required upgrading, 450 000 people were living in hostels which required upgrading; Approximately 13.5% of all households (1,06 million) live in squatter housing nation-wide, mostly in free-standing squatter settlements on the periphery of cities and towns and in the back yards of formal houses (Department of Housing, 1994, 12). It is estimated that the backlog could be eradicated by erecting 350 houses per year (Department of Housing, 1994, par.4.1).

The Bill of Rights as enshrined in the Constitution of the Republic of South Africa, 1996 states in section 26 that: "everyone has a right to have access to adequate housing." It is government's duty to take reasonable legislative and other measures, within its available resources, to achieve the progressive realization of this right. Provincial legislatures and local government share responsibility with the national government for delivery of adequate housing.

The Constitution also states "No one may be evicted from their home, or have their home demolished, without an order of court made after considering all the relevant circumstances. No legislation may permit arbitrary evictions."

In October 2000, the Constitutional Court made an important ruling on the government's constitutional obligation to provide adequate housing

for all and shelter for children. The 'Grootboom' case is seen as setting a precedent for other social and economic rights (Constitutional Court, 2000).

The establishment of legal rights to housing began in 1997 when the housing Act was passed. South Africa's current housing policy is rooted in the Housing Act, no. 107 of 1997.

The Prevention of illegal occupation of Land Act, of 1998 provides mechanisms for the resolution of conflict between the illegal occupier and the landowner. This law promotes a human rights culture by promoting negotiation as a tool for the resolution of disputes over illegal occupation.

The Housing Consumer Protection Measures Act, of 1998 protects housing consumers against fly-by-night contractors who build poorly constructed housing and ripping off poor people. The law provides a five year warranty against structural defects and mandates all home builders to be registered with the National Homebuilders Registration Council. This law protects all homeowners irrespective of social standing or income.

The Rental Housing Act, 1999 ensures that more houses are provided for rental purposes and to regulate the behavior of unscrupulous landlord to the extent that they do not charge exorbitant rents.

The Home Loan and Mortgage Disclosure Act, 2000 encourages banks to grant home loans and requires banks to disclose annual financial statements so that their lending practices can be monitored. Access to financing remains a major challenge to low cost housing development. In the Eastern Cape 32% of households earn less than R500 per month compared to just 5% in Gauteng (Knight, 2001:3). The 1994 White Paper estimated that at least 70% of South Africa's population is unable to afford finance, a further 10% to 15% will only be able to afford limited finance, most likely from nontraditional lenders. The government has provided a series of programs to help people finance the purchase of houses. Over 1 million housing subsidies have been provided. This includes the Rural Housing Loan Fund that has financed some 25 000 loans for low-income housing. Banks have been reluctant to provide housing finance.

A comprehensive National Housing Code was issued by the Ministry of Housing in 2000. The government's goal, as set out in the Housing Code, is the provision of 350 000 houses per annum until the housing backlog is overcome. The broad principles of the housing policy is a people centered delivery and partnerships; skills transfer and economic empowerment; fairness and equity; choice; quality and affordability; innovation; transparency, accountability and monitoring; and sustainability and fiscal affordability.

The ability of government to provide housing is restricted by its macro-economic policy known as GEAR (Knight, 2001:3). Two important

goals of this policy are to reduce inflation and reduce government expenditure to below 4% of GDP. This in effect limits the amount which government can spend on social needs including housing.

Criticisms of the housing being built, known as RDP houses, include quality, size and location (no economic or social infrastructure) (Knight, 2001:3).

Services: Between 1994 and 2000, 1.5 million new electrification connections have been established and 4 million more people given access to clean running water. During the 1999 election campaign the ANC promised to provide free electricity and water to the poorest households. Most local authorities have since managed to provide free water and electricity allowance of 6 Kilolitres and 20 Kilowatt hours (Units) respectively per month.

2.4 HISTORIC DEVELOPMENT OF THE DUCATS INFORMAL HOUSING SETTLEMENT

In 1991 a farm in the vicinity had been sold. The new owner of the farm did not require the services of 8 families who have been living on the farm. After the eviction of the 8 families, they started squatting on a piece of land known as Ducats Outspan. Ducats Outspan has been used as an overnight area for people traveling with ox-wagons in the early 20th Century. This farmland was situated in the Divisional Council of East London. The number of families increased gradually to 20, then 30 and approximately 75 dwellings in 1994, with a total population of

343 people. The dwellings increased to 1214 and the population to 5459 within the next four years.

The Ducats informal housing settlement illegally occupied farmland, because of access to the adjacent waste dump, which were providing employment and useful material. Certain materials, such as discarded cardboard were used to improve and insulate homes.

Ducats informal settlement is situated on the N6 road and is adjacent to a solid waste disposal site, which was operated by East London Municipality until recently. The dumpsite is still utilized for garden refuse disposal. The waste site provided employment and income.

There was no land ownership in Ducats, property rentals, or payment for services rendered during the twentieth century.

2.5 RECENT UPGRADING OF THE DUCAT COMMUNITY

The Ducats community is no longer occupying the land illegally. The land has been purchased in 1999 from the farm owner. Amatole District Municipality has a land resettlement spatial plan in place. One of the Council's objectives is to upgrade the Ducats Informal Settlement.

In 2000, the planning of the settlement was conducted by Wanklin & Associates Consulting Firm, in the same year an Engineering Rebow Firm was appointed to conduct a feasibility survey.

During 2001/2002, service and infrastructure were provided, Enviro-Loo sanitation facilities were provided for each household and roads and running water were supplied and the project was completed in June 2002.

In August 2002 the Surveyor General had approved and exempted the registration of settlement ownership, the sites were demarcated to erfes/erven for individual tenant ownership.

In August/November 2002 the Amatole District Municipality has appointed a firm of conveyancers for individual transfer of land deeds.

The Amatole District Municipality has submitted its application for housing subsidy to the Department of Housing and Local Government and Traditional Leaders. The application has been approved in 2002. The Ducats are now a formalized housing scheme, where the families became owners of their government houses.

The Council has provided one corrugated iron sheet hall, which is also used as a day care center during the day.

2.6 SOUTH AFRICAN GOVERNMENT POLICIES ON STANDARDS OF ENVIRONMENTAL HEALTH SERVICES DURING 1992

2.6.1 RESPONSIBILITY OF LOCAL AUTHORITIES WITH REGARD TO SERVICE DELIVERY AT TEMPORARY TRANSIT AREAS – UNDER THE ENFORCEMENT OF THE PREVENTION OF ILLEGAL SQUATTING ACT, 1951 (ACT NO 52 OF 1951)

This part of the study refers to environmental services which should have been rendered at the initial stages to the Ducats settlement, therefore soon after 1992. Initially Ducats informal settlement was only seen as a temporary measure. The residence were to be relocated at some or other stage. Due to political uncertainty and changes at the time, these people were not relocated, nor were the Ducats seen as a formal housing community.

Land on which the first few Ducat families have settled will, therefore be regarded as an informal transit area (Cape Province Municipal Association, 1991:40). Provincial circulars for the Cape Province also applied to the Eastern Cape at that stage. The services rendered to the Ducats therefore could not have been classified as services rendered to a permanent conventional town in a Metropolitan area, or as a permanent village or town in a rural area as classified by the Cape Province Municipal Association (1991:30), since it was meant to be of a temporary nature. The Ducats community did not receive serviced sites on which they could erect their own houses, which were referred to as informal towns in designated areas.

The Prevention of Illegal Squatting Act, 1951 (Act 52 of 1951) as amended by Act 104 of 1988 made provision for the declaration of transit areas (previously known as temporary emergency camps) where such families could temporarily be housed in their own structures until serviced sites in permanent formal or informal towns became available for purchase (or rental) where they could settle permanently (Cape Province Municipal Association, 1991:40).

2.6.1.1 MINIMUM COMMENCEMENT LEVEL OF SERVICES FOR TEMPORARY TRANSIT AREAS.

2.6.1.1.1 Plot: Approximately 7m wide x 11m deep = 77m² for pit latrines.

Alternative: Approximately 7m wide x 9m deep = 63m² for bucket sanitation.

2.6.1.1.2 Water: Watercart: set at specific points If more economic: Borehole (with handpump) water tested for contamination and consistency: or pipe system - 1 Stand pipe for sites within walking distance of 150m.

2.6.1.1.3 Sanitation: 1 Pit latrine per site - if soil is suitable without danger of pollution.

2.6.1.1.4 Alternative: 1 Bucket latrine per site.

2.6.1.1.5 Entrance reserves: Approximately 6m wide. Remove entry blocking bushes, stones etc. - suitable for tractor with trailers.

2.6.1.1.6 Refuse removal: 1 large communal skip per 200 families (weekly removal). Families use own refuse holder to dump refuse in communal skip.

2.6.1.1.7 Electricity: No domestic power or area lighting.

2.8 SUMMARY

This chapter discussed the nature of Environmental Health. It also provided the history of informal housing and more specific, that of the Ducat informal housing settlement. A standard for Environmental Health Service delivery according to Government policies and legislation was also provided.

Limited environmental health services were rendered to informal housing settlements before 1994, such as basic sanitation, water supply and refuse removal. Other environmental health aspects such as pest control, communicable disease control, air pollution control, radiation, occupational health issues, temperature extremes, lighting, ventilation, noise, social environment, food and meat hygiene were not required.

The next chapter will be an empirical study, which will provide baseline data and determine the nature and extent of Environmental Health Services delivered to the Ducats community.

CHAPTER 3

3 DATA COLLECTED ON ENVIRONMENTAL HEALTH SERVICES DELIVERED TO DUCATS INFORMAL HOUSING SETTLEMENT

3.1 INTRODUCTION

The previous chapter discussed the nature of Environmental Health. It also provided the history of informal housing and more specific, that of the Ducat informal housing settlement. A standard for environmental health service delivery according to Government policies and legislation was also provided.

This chapter will be an empirical study, which will provide baseline data and determine the nature and extent of environmental health services delivered to the Ducats community.

3.2. METHOD

The study is a descriptive survey of environmental health services rendered to Ducats Informal Housing Settlement.

The study is assessing the delivery of the environmental health services by firstly collecting baseline data by means of questionnaires and secondly by comparing available environmental health services with required standards as prescribed by government policies and legislation. These government policies, and legislation were documented in Chapter 2.

Information was collected by means of questionnaires, as well as personal interviews. Data about the delivery of Environmental Health services before 1994 were obtained by means of the said personal interviews.

3.2.1 DEMARCATION

The study population consisted of the inhabitants of the Ducats informal housing settlement, a residential area serviced by Amatole District Municipality.

3.2.2 POPULATION

The total population was included in the house-to-house survey.

3.2.3 STRUCTURING OF THE QUESTIONNAIRE

The compilation of the questionnaire consisted of multiple, dichotomous and/or open-ended questions. A copy of the questionnaire is attached as Annexure "A".

The baseline questionnaire concentrated mainly on:

- Bio-geographical information;
- The structural quality of the houses;
- The occupational density in these houses;
- Work and income patterns of inhabitants; and
- Housing density for the different areas.

Provision of environmental health services such as:

- Availability of potable water
- Sanitation
- Refuse removal
- Housing
- Environmental Management
- Qualitative food
- Air pollution control
- Storm water
- Pest control
- Sewage systems
- Cemeteries & Biomedical Waste

Maps of the informal areas were not available and it was therefore necessary to trace these off aerial photographs taken in 1994 [Appendix 2].

3.3 DELIVERY OF ENVIRONMENTAL HEALTH SERVICES BY THE LOCAL AUTHORITY TO THE DUCATS INFORMAL HOUSING SETTLEMENT BETWEEN 1992 AND 1994

3.3.1 Environmental Health Services Delivered: A personal interview with the area committee leader Mr Thembani Nxozana in 1998 has disclosed that the following environmental health services/facilities have been delivered by the local authority to the Ducats since the onset of this community:

3.3.1.1 Sanitation

Most dwellings have self constructed dry pit latrines. Those who did not have pit latrines shared with their neighbors, except the recently hired chemical toilets.

3.3.1.2 Storm water

The dwellings in the Ducats Informal Settlement were built on steep slopes that often experienced run-off problems, because it also came to light that the drainage and storm water systems were not developed. As a result there were enormous damages caused during storms. Heavy rains caused all topsoil to be washed off the sloping land of the site-and-service scheme, which had been poorly developed. There was no waste water system provided at Ducats informal settlement and the surrounding areas, the observable storm water furrow that were made at the tipping site that ran to the leachate dam at the bottom of the old tipping site was acting as a catchment area for all effluent from the tipping site.

3.3.1.3 Water

The community was supplied with water from water in two tanks that have a capacity of 4500 litre. Amatole District Municipality filled these tanks twice a week. At later years [1997] there were 10 [ten] water standpipes established. These were not easily accessible to some community dwellers, who had to walk more than 200 m to fetch water. The Ducats Informal Settlement's water standpipes were installed and available on certain sports or council demarcated plots where some consumers have to walk long distance to fetch the water. All households made use of containers to store their water in for later use or avoiding fetching water at unreasonable times.

3.3.1.4 Waste/Refuse removal

There were bulk skips supplied by East London Municipality which were managed by Waste-Tech on behalf of the East London Municipality that specializes in handling domestic, medical and hazardous waste for the Municipalities.

3.3.1.5 Air Pollution

Dirt roads caused a lot of dust. Most of these households burn wood and other types of material because these energy sources are cheap, accessible and reliable and some people prefer burning wood for space heating and many have made significant investment in coal-burning stoves. The burning of wood, coal or paraffin often meant increased air pollution.

3.3.1.6 Housing

Shelters erected by the Ducats inhabitants were made from corrugated iron, plastics, metal drums, wood, hardboard, cardboard and in some cases from cement blocks.

3.3.1.7 Control of Vermin and Vectors

The local authority did not control flies, mosquitos, cockroaches, mice and rats.

3.4 BASELINE DATA: DUCATS COMMUNITY IN 1996

3.4.1 POPULATION

The study has indicated that there were 5459 counted family members, who dwell in 1214 counted dwellings.

Table 3.1: Population Age Distribution

NO.	AGE GROUP	PERCENTAGE	POPULATION
1	Age 19 – 28	13%	709.67
2	Age 29 – 38	33%	1801.47
3	Age 39 – 48	18%	982.62
4	Age 49 – 58	14%	764.26
5	Age 59 – 69	13%	709.63
6	Age 69	9%	491.31
TOTAL		100%	5458.96

The oldest person was a 99 year old female.

3.4.2 EMPLOYMENT AGE DISTRIBUTION

Ever since these community members were evicted from the neighboring farms, they have lost the source of income and employment as a result some community members lived under conditions of poverty.

Some residents have set up small businesses as clothing outlets from the waste collected at the dump, certain materials, such as discarded paper rolls; cardboards; tin cans were used to improve and insulate dwellings.

There were 2050 community members that have proper earning or revenue income out of 5459 people living in the Ducats Informal Housing Settlement.

Table 3. 2: Employment Age Distribution

No.	Age Distribution	No. of People	Percentage
1	19 years – 28 years	266.5	13%
2	29 years – 38 years	820	40%
3	39 years – 48 years	410	20%
4	49 years – 58 years	328	16%
5	59 years – 68 years	225.5	11%
TOTAL		2050	100%

3.4.3 GENDER/SEX DISTRIBUTION

Table 3.3: The Gender/Sex Distribution of People with Income

Sex	No. of Population	Percentage
Male	1060	51,7%
Female	990	48,2%
Total	2050	99.9%

The study has revealed that out of 5459 people living in Ducats Informal Housing Scheme, only 2050 people have proper income which is less 37.6% of the total population and about 3409 people were totally unemployed which was 62.4% in total.

3.4.4 EMPLOYMENT STATUS

Table 3.4: Employment Status

NO.	SEX	UNEMPLOYED	EMPLOYED	SELF-EMPLOYED	OTHER	NO. OF PEOPLE
1	Male	1500	1060	250	500	3310
2	Female	259	990	180	720	2149
TOTAL		1759	2050	430	1220	5459

A wide variety of employment and income were taken into consideration such as bricklaying, butcher, carpentry, contractors, sub-contractors, domestic, gardener, doorstep gardening, driver, factory worker, grants, painter, paver, pensioner, petrol attendant, plumbing,

self-employed, teacher, temporary worker, unemployed, carpark security, fishery, beggars, chars. The waste tip site in the close proximity also provided employment for some because some of the residents have set up small businesses as clothing outlets from the waste collected through scavenging and salvaging the goods from the dump tip site.

- The total income revealed for the 1214 households was divided by the number of households. The average income per household is therefore R984.45 ($R195122.36 \div 1214 = R984.45$ per household).
- The average income per capita is R218.92 ($R1\ 195\ 122.30 \div 5459 = R218.92$).
- Respondents revealed that some of the work performed by many residents to bring money or food home for their families have negative connotations for example, robberies, stock theft, sex work etc.

3.4.5 MONTHLY INCOME OF FAMILY HOUSEHOLDS

The first category was people that were recorded having personal income estimated between R250 and R500 per month. This group totaled 1053 family households (86.7%). This category included all kinds of income ranging from self-employed and other unregistered employment categories.

A few of the households 1.7% [20] earned R620 per month. They were mainly pensioners.

The last category earned between R800 and R1000 was 11.6% [141] households. Members of these families have full time employment.

Table 3.5: Family Income Analysis

NO.	FAMILY HOUSEHOLDS WITH MONTHLY INCOME	PERCENTAGE OF FAMILY DWELLING	MONTHLY FAMILY INCOME	INCOME TYPE/CATEGORY
1	20	1.64%	± R620	Pension/Grant
2	141	11.61%	± R800– R1000	Fulltime Employment
3	1053	86.74%	± R250- R500	Self-Employed/ Personal Income
TOTAL	1214	99.99%		

3.4.6 MARITAL STATUS

More than half of all working inhabitants were not married [legal or traditional], because the survey has revealed that there were 50 divorces, 680 singles, 140 widows, 60 widower, 60 separated and 260

estranged that came to the total of 1250 unmarried persons, in total 61% of the total working people.

Table 3.6: The marital status of the working inhabitants

Marital Status	Population	Percentage
Divorce	50	2.4%
Legal Marriage	90	4.4%
Single	680	33%
Traditional Marriage	710	34.6%
Widow	140	6.8%
Widower	60	2.9%
Separated	60	2.9%
Estranged	260	12.7%
TOTAL	2050	99.7%

3.4.7 Water

All the respondents have indicated that their source of drinking water was provided through communal standpipes that were in close proximity of the occupants of each dwelling, some indicated that water source was from two huge corrugated plastic sheet 4500 litre water tanks which were filled on a regular basis i.e. weekly or twice per week.

The ten [10] water standpipes were installed and available on council demarcated plots where some consumers have to walk long distances

to fetch the water. All households made use of containers to store their water inside the family dwelling.

Table 3.7: Water Distribution Distance

Dwelling Population	%	Distance from Water Source
68	5.6%	1km
96	7.9%	500 m
500	41%	800 m
550	45%	200 m
1214 [Total]	100%	2.5 in radius

3.4.8 Sanitation: The study revealed that there were 33 communal self-made pit latrines and 20 communal hired chemical toilets.

There were not septic tanks and reticulated sewage systems at Ducats Informal Housing Settlement.

Table 3.8: Sanitation Delivery

NO.	NO. OF DWELLINGS IN DUCATS	DISTANCE TO PIT LATRINE	PERCENTAGE OF DWELLING	DISTANCE TO CHEMICAL TOILETS	DWELLINGS WITHOUT SEPTIC TANKS	DWELLINGS WITH OUT RETICULATION	DWELLINGS WITHOUT VIP
1	80	150m	6.6%	750m	100%	100%	100%
2	160	200m	13.8%	900m	100%	100%	100%
3	400	940m	33%	10m	100%	100%	100%
4	140	500m	11.5%	500m	100%	100%	100%
5	114	100m	9,4%	850m	100%	100%	100%
6	300	1000m	24.7%	50m	100%	100%	100%
Average	20	5m	1.6%	5m	100%	100%	100%
Total	1214	2.89km	100%	3.06km	100%	100%	100%

3.4.9 Storm water

The research study revealed that a proper built storm water drainage system was non-existent.

3.4.10 Solid Waste

Six refuse skips were placed next to the road entering the tip site to accommodate the people that wanted to dump waste. The actual tip site is also in close proximity and was utilized by the community members on their own accord.

3.4.11 Housing

93% of the houses [1139 dwellings] were of recent origin. The original evicted families built 75 dwellings [6.8%] of the total 1214 dwellings.

Table 9 the distance between the neighboring dwellings

No. of Dwellings	Distance Variables	Percentage
136	Attached houses	6.26
236	Less than 1 m	10.7
736	Between 1 m & 2m	21.9
266	Further than 50 m	60.6
1214		99.5

3.4.12 Recreational Amenities

In the questionnaire a question was asked – what is the distance to the nearest social amenity. There were no formal social health amenities delivered by the Buffalo City Municipality to the Ducats Informal Housing Settlement except improvised amenities such as day care centre, community halls and 3 sports fields.

Table 10: the distance to the nearest authority

Distance to Community Hall		Distance to Public Park		Distance to Organised Sportsfield		Distance to Support Group		Comments	
Hall		Park		Organised Sport		Sport Fields		Do you have a Supportive Group	
<3Km	>3Km	<3km	>3Km	<3 km	>3 km	<3km	>3km	<3km	>3km
175	197	-50	120	100	122	-6	172	67	105

[> 7/6 = 58.97 more than 3 km - <498 [41% less than 3] = 1214

3.4.13 Air Pollution Control

The findings of the study revealed that low-income dwellings in Ducats Informal Housing Settlement were inclined to be of poor thermal design resulted that the frequent user being dissatisfied and disproportionate expenditure of household income or energy for winter heating. It was also found that there was increasing environmental degradation which was caused by burning scavenged material, wood and paraffin and most importantly there was poor health from polluted air.

3.5 SUMMARY

This chapter was an empirical study, which provided baseline data and determined the nature and extent of environmental health services delivered to the Ducats community.

The Ducats occupied the land illegally. This complicated service delivery. Little clarity existed on the role of a local authority regarding environmental health service delivery to people occupying land illegally. A local authority could for instance not build dams, streets, latrines, sewage works, etc on property belonging to someone else.

The next chapter will be a comparison between environmental health services rendered to the Ducats informal housing settlement, and the standards set by legislation and Government policies in Chapter two of this study.

CHAPTER 4

4 COMPARISON BETWEEN ENVIRONMENTAL HEALTH SERVICES REQUIRED BY LAW AND THOSE RENDERED BY THE RELEVANT LOCAL AUTHORITY TO DUCATS INFORMAL HOUSING SCHEME

4.1 INTRODUCTION

The nature of environmental health services rendered to Ducats informal housing settlement has been provided in the previous chapter. This chapter will be comparing environmental health services rendered to Ducats Informal Housing Settlement against standards set by law in chapter two of this study.

4.2 ENVIRONMENTAL HEALTH SERVICES RENDERED TO DUCATS BETWEEN 1992 AND 1994 IN COMPARRISON TO SERVICES THAT SHOULD BE RENDERED ACCORDING TO LAW AND GOVERNMENT POLICIES.

The set of tables will refer to the stage when Ducats could have been classified as an informal transit area (1992 – 2000)

TABLE 4.1: <u>WATER</u>: SERVICES PROVIDED IN COMPARRISON TO SERVICES THAT SHOULD BE PROVIDED.				
SERVICES PROVIDED TO DUCATS.	ITEM IN CHAP. 3	STANDARD OF SERVICE THAT <u>SHOULD</u> BE PROVIDED.	ITEM IN CHAP. 2	COMPLIANCE/ NON-COMPLY
2 Tanks with a capacity of 4500 litre filled by the Municipality twice per week.	3.4.1.3	Watercart: Set times at specific points. If more economic: Borehole (with handpump) water tested for contamination and consistency; or Pipe system – 1 stand pipe for sites within walking distance of 150 m.	2.2.1.1.2	Complies: Water supply complies with standards

TABLE 4.2: <u>SANITATION</u>: SERVICES PROVIDED IN COMPARRISON TO SERVICES THAT SHOULD BE PROVIDED.				
SERVICES PROVIDED TO DUCATS.	ITEM IN CHAPTER 3	STANDARD OF SERVICE THAT SHOULD BE PROVIDED.	ITEM IN CHAPTER 2	COMPLIANCE/ NON-COMPLIANCE
Most dwellings have self constructed dry pit latrines. Those who did not have pit latrines shared with their neighbors, except the 20 recently hired chemical toilets.	3.4.1.1	Sanitation: 1 Pit latrine per site - if soil is suitable without danger of pollution. Alternative: 1 bucket latrine per site.	2.2.1.1.3 and 2.2.1.1.4	Compliance: Most people made use of self constructed pit latrines.

TABLE 4.3: REFUSE: SERVICES PROVIDED IN COMPARRISON TO SERVICES THAT SHOULD BE PROVIDED.

SERVICES PROVIDED TO DUCATS.	ITEM IN CHAPTER 3	STANDARD OF SERVICE THAT <u>SHOULD</u> BE PROVIDED.	ITEM IN CHAPTER 2	COMPLYANCE/ NON-COMPLYANCE
Bulk skips supplied by East London Municipality and serviced by Waste-Tech.	3.4.1.4	Refuse removal: 1 Large communal skip per 200 families (weekly removal). Families use own refuse holder to dump refuse in communal skip.	2.2.1.1.6	Complies: Sufficient skips were supplied.

4.3 SUMMARY

This chapter has been comparing environmental health services rendered to Ducats Informal Housing Settlement, against standards set by legislation as indicated in chapter two of this study.

Limited environmental health services were required for communities occupying land illegally during 1992. The Amatola Regional Services Council however rendered all the environmental health services required. The extent to which water and waste services were provided, also complied with the prescribed norms. Sanitation was not delivered to everyone as prescribed, since some people (minority) had to share the use of some of the pit latrines.

Mention has been made of a continuous influx of additional people to settle on the Ducat land. Since the construction of a pit latrine takes time, it could be perceived that 100% of the inhabitants of Ducats could not be in possession of such a facility. A communal water tank and waste skip on the other hand, could accommodate a steady increase in residence.

Recommendations on the provision of environmental health services to communities will be made in the next/last chapter.

CHAPTER 5

5 RECOMMENDATIONS TRANSPIRING FROM THE RESEARCH FINDINGS

5.1 INTRODUCTION

The previous chapters were an investigation of environmental health services that are rendered to the Ducats informal residential community, in comparison to the services that should have been delivered to them according to the legislation and policies of South Africa. The study also provided baseline data on which future development should be based. Recommendations on the provision of environmental health services to communities will be made in this last chapter.

5.2 TRANSFORMING DUCATS SERVICE DELIVERY

5.2.1 PEOPLE MUST COME FIRST

The "customer" concept. The White Paper for Public Service Delivery states that, in a competitive commercial market, private companies cannot afford to ignore the needs and wishes of their customers if they want to stay in business.

In the past many households refused to pay for services rendered, since the people were dissatisfied with the services delivered.

The concept of the citizen as a 'customer' may therefore seem inappropriate at first. 'Customer' is nevertheless a useful term in the

context of improving service delivery because it embraces certain principles, which are as fundamental to public service delivery as they are to the provision of services for commercial gain. To treat citizens as 'customers' implies:

- 5.2.1.1 Listening and taking into account their views when making decisions about what services should be provided.
- 5.2.1.2 Treating them with consideration and respect.
- 5.2.1.3 Making sure that the promised level and quality of service is always of the highest standard possible.
- 5.2.1.4 Responding swiftly and sympathetically when standards of service fall below the promised standard.

The term 'customer' will therefore be useful in taking forward the Batho Pele initiative and is used interchangeably with the term citizen throughout.

In many instances, there are no clearly defined standards by which to measure the delivery of services. Individual citizens find that complaining about services often has little effect and can be a time-consuming process. Lack of information and complex regulations are also barriers to good service. It is often left to the citizen to determine what services are available.

Too many government forms are complicated and not designed with the user in mind. Too many letters are written in a stilted,

impersonal style to the person who receives it. Finding the right person to speak to in a national or provincial department, particularly someone who can give friendly advice, can be very trying, leaving the citizen feeling helpless, frustrated and uncertain.

5.2.2 MEASURES TO FACILITATE THE DUCATS DEVELOPMENT

There are guidelines in the Facilitation Act No. 67 of 1995 which serves as a guideline by reference to which any competent local authority shall exercise any discretion or take any decision in terms of that act or any law dealing with development.

5.2.2.1 The General principles for land development that apply to all land development are indicated as follows:

5.2.2.1.1 Policy, administrative practice and laws should provide for urban and rural land development and should facilitate the development of formal and informal, existing and new settlements and should discourage the illegal occupation of land, with due recognition of informal land development processes.

5.2.2.1.2 Policy, administrative practice and laws should promote efficient and integrated land development in that they,

- 5.2.2.1.3 Promote the integration of the social, economic, institutional and physical aspects of land development;
- 5.2.2.1.4 Promote integrated land development in rural and urban areas in support of each other;
- 5.2.2.1.5 Promote the availability of residential and employment opportunities in close proximity to or integrated with each other;
- 5.2.2.1.6 Optimize the use of existing resources including such resources relating to agriculture, land, minerals, bulk infrastructure, roads, transportation and social facilities;
- 5.2.2.1.7 Promote a diverse combination of land uses, also at the level of individual erven or subdivisions of land;
- 5.2.2.1.8 Discourage the phenomenon of 'urban sprawl' in urban areas and contribute to the development of more compact towns and cities;
- 5.2.2.1.9 Contribute to the correction of the historically distorted spatial patterns of settlement in the Republic and to the optimum use of existing infrastructure in excess of current needs; and encourage environmentally sustainable land development practices and processes.

Members of communities affected by land development should actively participate in the process of land development.

The skills and capacities of disadvantaged persons involved in land development should be developed.

The laws, procedures and administrative practices relating to land development should be made clear and generally be available to those likely to be affected thereby. It should in addition be serving

as regulatory measures. It also should provide and serve as guidance and information to those affected, promote trust and acceptance on part of those likely to be affected thereby, and give further contents to fundamental rights set out in the Constitution.

5.2.2.2 ESTABLISHMENT OF A NEW LESS FORMAL DUCATS TOWNSHIP

5.2.2.2.1 PREPARATION OF STRUCTURE PLANS

The Land Use Planning Act No. 15 of 1985, states that the local authority may, with consent and shall on the direction of the Eastern Cape Provincial Administrator, prepare and submit to the Administrator for his approval a structure plan, in respect of the land situated in its area of jurisdiction or such part thereof as may be determined by the Eastern Cape Administrator; and may with the consent and shall on the direction of the Eastern Cape Administrator prepare in cooperation with one or more other local authorities and submit to the Eastern Cape Provincial Administrator for his approval a structure plan, in respect of the land situated in their respective areas of jurisdiction or such parts thereof as may be determined by the Administrator.

The general purpose of a structure plan shall be to lay down guidelines for the future spatial development of the area to which it relates, including urban renewal, urban design or the preparation of development plans, in such a way as will most effectively promote the order of the area as well as the general welfare of the community concerned.

A structure plan may authorize rezoning in accordance with such structure plan by a council.

A structure plan shall not confer or take away any right in respect of land.

5.2.2.3 SHORTENED PROCEDURES FOR LESS FORMAL SETTLEMENT

According to the Less Formal Township Establishment Act No. 113 of 1991, The Provincial administrator must make available state land for township establishment to the local authority that intends to implement this. This should be done by purchasing the land, or by expropriation, or in any other manner.

When the Provincial Administrator is satisfied that people have an urgent need to obtain land on which they intended to settle (a less formal settlement) then the administrator shall by notice in the official government gazette designate land made available to the persons in need of the land, or the land shall be made available by the local authority to the community. After a 21 day period has expired from such notice, notwithstanding anything to the contrary contained in any law, then the Provincial Administrator must in a notice suspend any servitude registered against the title of the designated land which, in the opinion is not being utilized beneficially or, with a view to the use of the land for less formal settlement.

Any other restrictive condition thus registered or otherwise operative in respect of this land, if he/she is of the opinion that such a servitude or condition is inconsistent with, or undesirable in relation to, the use, occupation, development or subdivision of the land, or that the cancellation of the servitude or condition in accordance with formal procedures will unnecessarily delay the opening of a township register in respect of that land.

5.2.2.4 SURVEYING AND APPROVAL OF A GENERAL PLAN

The developer of designated land shall cause a general plan to be prepared for the land and shall cause such plan to be submitted to the surveyor-general for approval. After the plan has been approved or provisionally approved by the surveyor-general, file such plan at the deeds registry for registration by the registrar of deeds.

5.2.2.5 OPENING OF TOWNSHIP REGISTER AND LEGAL EFFECTS

After a general plan has been filed at the deeds registry in terms of section 5(b), the registrar of deeds shall forthwith open a township register in respect of the designated land concerned.

5.3 ENVIRONMENTAL HEALTH SERVICE DELIVERY

5.3.1 WATER

In terms of the Water Service Act No. 108 of 1997, every water service authority has a duty to all consumers or potential consumers in its area of jurisdiction to progressively ensure efficient, affordable economical and sustainable access to water services.

This duty is subject to the availability of resources; the need for an equitable allocation of resources to all consumers and potential consumers within the authority's area of jurisdiction; the need to regulate access to water services in an equitable way; the duty of consumers to pay reasonable charges, which must be in accordance with any prescribed norms and standards for tariffs for water services; the duty to conserve water resources; the nature, topography, zoning and situation of the land in question; and the right of the relevant water services authority to limit or discontinue the provision of water services if there is a failure to comply with reasonable conditions set for the provision of such services; the operational and efficiency and economic viability of water services; any norms and standards for applicable tariffs for water services; any other laws or any standards set by other governmental authorities; any guidelines recommended by official standard-setting institutions; any impact which the water services might have on the environment; and the obligations of the National Government as custodian of water resources. Every water services

institution must comply with the standards prescribed under this Water Act.

Every local authority or water service institution must comply with the standards prescribed in the Water Supply and Sanitation White Paper as follows:

5.3.1.1 Quantity

The relevant local authority must ensure that provision of 25 litres per person per day. This is considered to be the minimum required for direct consumption, for the preparation of food and for personal hygiene. It is not considered to be adequate for a full, healthy and productive life, which is why it is considered as a minimum.

5.3.1.2 Cartage

There shall be a maximum distance, which a person should have to cart water to their dwelling, is 200m. In steep terrain this distance may have to be reduced to take account of the extra effort required to cart water up steep slopes.

5.3.1.3 Availability

The flow rate of water from the outlet should not be less than 10 litres a minute and the water should be available on a regular, daily basis.

5.3.1.4 Assurance of supply

The supply should provide water security for the community. Two factors are important here. First, schemes for domestic water supply should ensure the availability of “raw” water for 98% of the time. This means that the service should not fail due to drought more than one year in fifty, on average. Second, the operation and maintenance of the system must be effective. The aim should be to have no more than one week’s interruption in supply per year.

5.3.1.5 Quality

Once the minimum quantity of water is available, its health related quality is as important in achieving the goal of a water supply adequate for health. The quality of water provided, as a basic service should be in accordance with currently accepted minimum standards with respect to health related chemical and microbial contaminants. It should also be acceptable to consumers in terms of its potability [taste, odour and appearance].

There can be a desire of many communities to upgrade a basic service to provide for household connections this should be taken into account during planning. If this is not done the system could either fail due to illegal connections or have to be expensively upgraded when there is a demand for house connections. Any additional infrastructure required to provide upgraded services will not be considered as part of the basic needs infrastructure.

5.3.2 SANITATION

Policy and practice regarding sanitation provision is relatively undeveloped. Because of the strong linkage between sanitation services and public health, the health sector must play a significant role in all aspects of sanitation policy creation, planning, implementation and monitoring. Details of this remain to be established. In the interim, the following guidelines should be followed by the relevant local authorities.

5.3.2.1 Adequate sanitation

The immediate priority is to provide sanitation services to all which meet basic health and functional requirements including the protection of the quality of both surface and underground water. Higher levels of service will only be achievable if incomes in poor communities rise substantially. Conventional waterborne sanitation is in most cases not a realistic, viable and achievable minimum service standard in the short terms due to its cost will be the Ventilated Improved Pit toilet [VIP], if constructed to agreed standards and maintained properly, provides an appropriate and adequate basic level of sanitation service. Adequate basic provision is therefore defined as one well-constructed VIP toilet [in various forms, to agreed standards] per household.

5.3.2.2 "Intermediate" sanitation systems

Innovative and proprietary systems will be tested against performance criteria and measured in terms of operations requirements, value for money and customer satisfaction.

5.3.2.3 Responsibility of Local Authority

Responsibility for the implementation and management of sanitation services lies with the local authority. Second tier agencies and the Department will only take action where local government does not exist and such action will be aimed at ensuring that the local capacity to provide adequate services is established as soon as possible, enabling the speedy withdrawal of higher level authorities. Where local authorities do not exist the Provincial Department must use Local Water Committees as the vehicle for sanitation development.

5.3.2.4 Participation of communities

Community members have a strong interest in choosing a level of service for which they are willing and able to pay and in understanding the benefits of such a decision. Making an informed choice, and being committed to that choice will only happen if ordinary people participate and have access to relevant information.

The communities role in safeguarding environmental health issues:

Sanitation is a very private matter. Unless the individual and the household are committed to the success of a health and sanitation programme, little will be achieved. Communities seeking public subsidies for the capital costs of household sanitation need to demonstrate widespread individual household support, which will have to include a contribution to the cost of service provision.

Sanitation improvement programs, especially those promoting on-site systems, have considerable job creation potential through the use of local materials, products, suppliers, and contractors, and the use of labour intensive techniques. Such programs must be supported by the Department in conjunction with the National Public Works Program.

5.3.2.5 Capacity building, education and training

It is the national responsibility to support regional and local efforts requiring the development and dissemination of appropriate programs for promotion, training and health and hygiene education. This is an issue where the linkage with the health sector is particularly important. Second tier agencies will be required to help build capacity and train personnel at the local level and to provide support until such capacity has been established.

5.3.2.6 Sanitation and housing

Since sanitation is provided at household level, consistency with urban and rural housing policy is essential, both to ensure consensus on standards and to avoid double subsidies.

5.3.2.7 Sanitation and environmental policies

Sanitation systems must be environmentally sound. Both on-site sanitation and waterborne systems can create environmental problems. The impact of different sanitation options must be weighed against the impact of unimproved sanitation practices. The risk of groundwater and surface water pollution must be assessed and options considered which include the costs of alternative water sources or water treatment versus alternative methods of sanitation provision.

5.3.2.8 Promotion of health and hygiene awareness and practices

The people need to be aware of the benefits of sanitation improvements in order for them to be willing to invest their own resources into those improvements and adopt good hygiene practices.

For this reason, health and hygiene awareness and education aimed at increasing the demand for good sanitation and improved hygiene behavior needs to precede and become an integral part of sanitation improvement programs.

5.3.3 HOUSING

The National, provincial and local spheres of government must give priority to the needs of the poor in respect of housing development; consult meaningfully with individuals and communities affected by housing development.

The local authority must ensure that housing development shall provide as wide a choice of housing and tenure options as is reasonably possible that is economically, fiscally, socially and financially affordable and sustainability; which is based on integrated development planning; and is administered in a transparent, accountable and equitable manner, and upholds the practice of good governance.

The relevant local authority must promote encourage and support individuals and communities, including, but not limited to, cooperatives, associations and other bodies which are community-based, in their efforts to fulfill their own housing needs by assisting them in accessing land, services and technical assistance in a way that leads to the transfer of skills to, and empowerment of, the community.

The relevant local authority must promote technical education and consumer protection in respect of housing development with conditions in which everyone meets their obligations in respect of housing development; the establishment, development and maintenance of socially and economically viable communities and of safe and healthy

living conditions to ensure the elimination and prevention of slums and slum conditions.

The relevant local authority must ensure that the inhabitants of its area of jurisdiction have access to adequate housing on a progressive basis; conditions conducive to the health and safety, it should ensure that bad conditions are prevented or removed; also ensure that there are services in respect of water, sanitation, electricity, roads, storm water drainage and transport are provided in a manner which is economically efficient

5.3.4 WASTE DISPOSAL

Waste produced by man may include abattoir waste and household or municipal and commercial/industrial refuse.

The common solid waste consists of paper, board and rags, organic matter, glass, metal [iron], plastic and about non-ferrous metal, rubber, etc. It has an intrinsic value if sorted and cleaned, but it is valueless at the tip site.

The volume of refuse in Ducats Informal Housing Settlement is increasing at the rate of about 10% per annum because of the material salvaged from the existing tip site in the close proximity.

The relevant local authority must close the tip site and ensure that removal and disposal of this waste and refuse must be prompt, safe, aesthetic and cheap for the community and the methods used for removal and disposal. The sole objective must be the prevention of nuisance and the obviation of contamination of the environment, food and of water. Disposal must take place within the closed environment with the least possible damage to the whole.

The local authority must control littering and if people show a responsible attitude to the proper disposal of refuse than education, training and a realization of the need for cleanliness are necessary. The dumping of car wrecks in particular offers great removal, storage and disposal problems and the legal aspect of ownership very often complicates matters, littering is unlawful in terms of existing legislation, but successful implementation of the law must be enforced.

5.3.5 WASTE WATER DISPOSAL

The household must be provided with a wastewater removal systems or drainage. The study research has aligned wastewater with domestic sanitation effluent removal. The Ducats Informal Housing Settlement is more of a semi-rural area where the method of liquid waste disposal is dependent mainly on the density of their population.

The most anticipated sanitary facilities for this area is pit privy, to accommodate a pit privy the erf should not be less than 0,4 hectares

and the pit itself should measure not less than 1m by 1m by 3m deep. The ground itself should not be waterlogged and it must be clay-free to allow for the draining away of liquid waste into a French drain or soak-way. A foul-proof slab and riser, with a self-closing lid is essential this is recommended in the RDP, but if relevant local authority is financially stable then a waterborne sewerage system should be provided.

Waterborne sewerage is the one great boon to civilization. In the house there should be a pan with water seal and vent, connected to a drain, a sewer that led to a treatment farm. The storm water disposal system must be kept separate from this system. Disposal takes place on the treatment farm, where solids are removed and the effluent is treated. It is possible to purify effluent to potable schemes for the utmost re-use of effluent are essential. Treatment of sewage before the effluent is released into natural watercourses is required by law that must be implemented.

The reason to separate the sewerage pipes from the domestic wastewater is due to the hardness or softness of water, which is determined by its mineral content. Waters having a high mineral content are hard with poor soap lathering qualities, whilst those having a low mineral content such as rainwater, lather well and are usually highly solvent. Soft waters are often dangerous in that they tend to dissolve out the lead in pipes containing lead. Temporary hardness is due to the presence of carbonate salts, usually calcium and

magnesium, and may be removed by the addition of time or by boiling and addition of lime.

The relevant local authority that governs the Ducats Informal Housing Settlement should provide waste water system that is conducive for the area itself because the efficient removal of the predominantly organic impurities from wastewater calls for the application of more sophisticated techniques than are usually applied in conventional water treatment. A combination of biological, physical and chemical processes is currently considered to be the most feasible approach. However, limits must be placed on the amounts of toxic substances in the sewage. High mineral salt content of sewage is especially difficult to remove and purification of wastewater by industrialists must be accepted as part of the manufacturing process. The removal of phosphates from sludge effluent is both difficult and expensive. It encourages algae growth and the eutrophication of water.

5.3.6 SOCIAL ENVIRONMENT

The old aged people need parks, and children need play grounds and adults need sports fields and sports facilities.

It has been discovered that a standard township layout requires about three to four hectares of park and recreation area per 1 000 population.

5.3.7 AIR

A new approach has to be developed to environmental management, as it is necessary. All the ecological systems whether being fabricated or natural must be made in the long run to achieve a state of equilibrium and be self-generating with regard to both energy and materials.

The ecology of highly industrialized areas should be in a state of equilibrium for several years in the future.

Households with a fireplace contribute to air pollution. The Ducats using coal in their stoves without proper ventilation should make a concerted effort to deal with this problem.

The coal-burning contributes to bronchitis, emphysema and tuberculosis.

The control of atmospheric pollution has become imperative. Electricity is the cheapest and safest energy source.

According to the Atmospheric Pollution Control Act No. 45 of 1965, the control of smoke emission from both the stationary and moving sources are the duty of the relevant local authority.

Smoke control level one applies to small businesses within residential areas such as hotels. Level two applies to smoke emitted from big industries situated in the industrial area. Level three of smoke control by local authorities applies to private homes. The limitation of smoke emissions must meet the national standard and be nationally accepted. Level two of control also prohibits burning of refuse in the backyard. Dust-control measures should be enforced such as getting rid of gravel roads.

The relevant local authority's environmental health practitioners should ensure that the non-smoking in public places national act is enforced.

5.3.8 POLLUTION CONTROL

Community efforts must be made to restrict the noise to which people are subject. Noise levels about which damage to hearing may be expected and below which absence of danger may be assumed, have been formulated and included in a code of practice by the South African Bureau of Standards. Legal enforcement of these standards may be necessary. In general, traffic noise has already exceeded acceptable limits. In future, town planners must pay careful attention to the limitation of noise by zoning and the application of a 10dB law whereby noise acceptable in a noise control zone may not, under any circumstances, exceed the level laid down by more than 10dB. The maximum noise of any road vehicle should not exceed 85dB.

Earmuffs are compulsory in industry when ambient noise exceeds 85dB. This makes communication and the diagnosis of problems difficult. The local authority should enforce its laws in such industries and at dwelling places. Chronic, excessive noise over prolonged periods results in progressive and permanent hearing loss, especially in the mid-frequency range of speech.

5.3.9 PEST CONTROL

To control the rodents the relevant local authority must control the environment that protects these pests. Over grown areas and rubble must be cleared and bait traps must set.

5.3.10 DISEASE CONTROL

The mosquito control is done by larvicides. This could be done by pouring oil on the surface of water (asphyxiation). Control of adult mosquitos could be done by draining the swamp, which will remove potential breeding sites.

Lice Control must be done by washing, or autoclaving of clothing.

5.4 LEGISLATION AND GOVERNMENT POLICIES TO BE CONSIDERED IN THE MANAGEMENT OF FUTURE HOUSING ISSUES IN SOUTH AFRICA

The following legislation act as guidelines in which improvements could be made. It also indicate the responsible authority. It contains many pieces of legislations for improving environmental health in Ducats.

These actions form a checklist against which the progress of improving environmental health services can be measured.

5.4.1 THE CONSTITUTION OF THE REPUBLIC OF SOUTH AFRICA, ACT No. 108 of 1996

5.4.1.1 Section 8: Bill of Rights

5.4.1.1.1 This Bill of Rights is a cornerstone of democracy in South Africa. It enshrines the rights of all people in the country and affirms the democratic values of human dignity, equality and freedom.

5.4.1.1.2 The state must respect, protect, promote and fulfill the rights in the Bill of Rights.

5.4.1.2 Section 217: Procurement and Local Economic Development

2[a][b] When an organ of state in the National, Provincial and Local sphere of government, contracts for goods or services, it must do so in accordance with a system which is fair, equitable, transparent, competitive and cost effective. The organs of state should provide for categories of preference in the allocation of contracts; and protection or advancement of persons or categories of persons disadvantaged by unfair discrimination.

5.4.1.3 Section 151: Local Government

[3] A municipality has the right to govern, on its own initiative, the local government affairs of its community, subject to national and provincial legislation, as provided for in the Constitution.

The national or a provincial government may not compromise or impede a municipality's ability or right to exercise its powers or perform its functions.

5.4.1.4 Section 152 [1] the objects of local government are:

- [a] To provide democratic and accountable government for local communities;
- [b] To ensure the provision of services to communities in a sustainable manner;
- [c] To promote social and economic development;
- [d] To promote a safe and healthy environment; and
- [e] To encourage the involvement of communities and community organisation in the matters of local government.

5.4.1.5 Section 24 Right to Environment

Everyone has the right –

- [a] to an environment that is not harmful to their health or well-being; and

[b] to have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that:

- [i] prevent pollution and ecological degradation;
- [ii] promote conservation; and
- [iii] secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development.

5.4.1.6 Section 26: Housing

(1) Everyone has the right to have access to adequate housing.

The state must take reasonable legislative and other measures, within its available resources, to achieve the progressive realization of this right.

5.4.2 HEALTH ACT 1977, No 63 of 1977

5.4.2.1 Regulation 27 of the Health Act of 1977 refers to 'Procedures in respect of conditions requiring immediate remedying. The four sub-regulations under regulation 27 refer to the role of a local authority in the case where environmental health services are not rendered to inhabitants of private land. It reads as follow:

(1) Where in the opinion of a local authority a condition has arisen in its district which is of such a nature as to be offensive or a danger to health unless immediately remedied and to which the provisions of the Atmospheric pollution Prevention 'act, 1965 (Act No. 45 of 1965), are not applicable, it may serve a written notice on the person

responsible for such condition having arisen or on the occupier or owner of the dwelling in which or premises on which such condition exists, calling upon him to remedy the condition within such period as may be specified in such notice.

(2) Any person failing to comply with any such notice shall be guilty of an offence.

(3) If the person on whom notice is served under subsection (1) fail to comply therewith, the local authority may enter the dwelling or premises in question and take all such steps as may be necessary to remedy the condition, and may recover the cost of so doing from the person on whom the notice was served or from the owner or occupier of the dwelling or premises in question.

(4) Where any such notice has been served on the owner, the said costs, together with interest thereon calculated at a rate of interest determined by the Minister of Finance with effect from the date on which such cost were incurred, shall, notwithstanding anything to the contrary in any other law contained, form a first charge against the land on which such dwelling is or premises are situated and rank in priority to all debts whatsoever, other than costs referred to in section 89 of the Insolvency Act, 1936 (Act No. 24 of 1936).

5.4.2.2 In terms of section 20 of the Health Act No. 63 of 1977 local authorities have the obligation to perform the following indicated duties:

Every local authority shall take all lawful, necessary reasonably practicable measures to maintain its district at all times in a hygienic and clean condition in order to prevent the occurrence within its district of any nuisance; any unhygienic condition; any offensive

condition; or any other condition which will or could be harmful or dangerous to the health of any person within its district of any other local authority, or, where a nuisance or condition exists or has so occurred, to abate or cause to be abated, such nuisance, or remedy, or cause to be remedied, such condition, as the case may be.

The relevant local authority must make efforts to prevent the pollution of any water intended for the use of the inhabitants of its area, irrespective of whether such water is obtained from sources within or outside its area, or to purify such water, which has become so polluted.

It must render in its area, subject to the provisions of the abovementioned act or any other law, services approved by the Council for the prevention of communicable diseases; the promotion of the health of persons; and the rehabilitation in the community of persons cured of any medical condition, to coordinate such services with due regard to similar services rendered by the Department of Health or the provincial administration of the province in which its area is situated.

If the Minister, after consultation with a local authority, is satisfied that such local authority is able to perform any functions of the Department of Health referred to above, the Minister may, by notice in the Gazette, direct such local authority to perform such function.

The Minister shall, in respect of expenditure incurred by a local authority in performing any function of the Department of Health by virtue of the provisions of subsection [2] or [3], refund such local authority such amount as the Minister, in consultation with the Minister of Finance may determine.

Whenever any local authority is, in the opinion of the Minister, unable owing to lack of resources, to exercise any of its powers or to perform any of its duties in terms of this section, the Minister may, after consultation with the Administrator concerned, by notice in writing addressed to such local authority relieve it, during a period specified in such notice, of the exercise of such power or the performance of such duty as he may specify in such notice, whereupon the Secretary may, during the said period, exercise the power or perform the duty of which such local authority has so been relieved, and may authorize any person to take all necessary steps for that purpose as if he were the local authority.

A local authority must through any of its officers appointed under this Act or through any person generally or specially authorized in writing by its chief administrative officer, prosecute for any contravention of or failure to comply with any provision of this Act if the offence is alleged to have been committed within the district of that local authority to affect that district.

The local authority health department should play a major role in any Disaster Management programme, its involvement varying with the type and duration of disaster or emergency. Because the structure of such a department embraces both personal and environmental health services, it is not only an ideal ready-made community-orientated establishment, but represents readily available, easily mobilized, adaptable and disciplined teams composed of persons accustomed to field work, with sound local knowledge and a wide range of capabilities and expertise.

Variable too, is the degree of involvement of personal, preventative or environmental health services in relation to each other and vis-à-vis the role of the hospital services. Each disaster situation, whether it be serious floods, abnormal wind damage, serious transport accidents in a built up area, explosions, fire, actual or potential epidemics, to name but a few, makes specific but varying demands on the resources available.

Disaster Management is a function covering the full spectrum of preparedness, mitigation, response, reconstruction and redevelopment. It is not just a method of ensuring the readiness to render effective and efficient help to those suffering from disruption in a disaster area, but also to eliminate and/or reduce the risk to vulnerable communities. For any local authority health service to fulfill its role in disaster management, pre-planning is required in order to be prepared for any

eventuality. Such plan should be flexible and allow for adaptation to any crisis situation of any size or duration, which may vary from short-term but immediate medical intervention to a long-term refugee problem, or may present an immediate prolonged environmental problem.

5.4.3 THE NATIONAL HEALTH BILL OF 2001

Municipal Health Services: According to the National Health Bill, Municipal Health Services are defined as environmental health services that must be rendered by the Municipalities and other Municipal Health Services.

5.4.4 WATER SERVICES ACT NO. 108 OF 1997

The Act aimed to provide for the rights of access to basic water supply and basic sanitation; to provide for the setting of national standards and of norms and standards for tariffs; to provide for water services institutions and water services intermediaries; to provide for the establishment and disestablishment of water boards and water services committees and their powers and duties; to provide for the monitoring of water services and intervention by the Minister or by the relevant Province to provide for financial assistance to water services institutions; to provide for certain general powers of the Minister; to provide for the gathering of information in a national information system

and the distribution of that information; to repeal certain laws; and to provide for matters connected therewith.

5.4.5 THE WHITE PAPER ON BASIC HOUSEHOLD SANITATION OF SEPTEMBER 2001

- The Government has a constitutional responsibility to ensure that all South Africans have access to adequate sanitation. The publication of this national sanitation policy is an important step in the process of meeting this responsibility and in addressing the problems of inadequate sanitation.
- The purpose of the National Sanitation Policy is to provide a framework for Municipalities to drive, implement its programme and also to provide a basis for the formulation of a local government sanitation improvement strategies that are aiming at addressing sanitation facility backlogs.

5.4.6 WHITE PAPER FOR THE TRANSFORMATION OF THE HEALTH SYSTEMS IN RSA

This Act states that the Department of Health, in collaboration with other relevant sectors is responsible for the improvement of RSA environmental health services status. It therefore endeavors to limit the health risk, which arises from physical and social environment. The broad aim of environmental health services is to address environmental health priorities as defined by inter alia, Agenda 21 Strategy for Domestic Refuse Removal and Disposal.

5.4.7 REGULATION R.21 OF 2000: REGULATION TO CONTROL ENVIRONMENTAL CONDITIONS CONSTITUTING A DANGER TO HEALTH OR A NUISANCE

The abatement of a nuisance or biomedical material, medical waste shall be carried out by a local authority or by an assignee by the local authority the local authority shall serve a written notice on the author of the nuisance or if he cannot be identified, on the occupier of the premises on which such nuisance exists or activity conducted calling him/her to abate the nuisance or prevent the risk.

5.4.8 ENVIRONMENTAL CONSERVATION ACT NO. 73 OF 1989

Prohibition of litter, removal of litter and waste management. The local authority shall ensure that no person shall discard, dump or leave any litter on any land or water surface, street or road site in or any place to which the public has access. The local authority shall remove litter if any has been dumped.

The act aimed at providing for utilization of the environment and for the matters indicated thereto.

5.4.9 THE WATER ACT NO. 54 OF 1956

The Act makes it obligatory that all water effluent be purified to a prescribed standard before being returned to natural water sources and the act lay this responsibility on both the local authority, homestead and industrialist (Effluent standards under this act is still applicable, although a new act has been promulgated).

5.4.10 THE HOUSING ACT NO. 107 OF 1997

This Legislation states that every local municipality should ensure that during the local government establishment of the [IDP] Integrated Development Planning, it takes all reasonable and necessary steps within the National Government Framework and Provincial Housing Programmes to ensure that the local communities have access to adequate housing progressively.

5.4.11 THE ATMOSPHERIC POLLUTION PREVENTION ACT NO. 45 OF 1965

The purpose of this Act is to provide for the prevention of pollution of the atmosphere, also it is there for the establishment of a national air pollution advisory committee and matters incidental thereto such as the prevention of the escape of noxious or offensive gases or the dispersal or suspension of dust in the atmosphere or the emission of fumes by vehicles, includes the provision and maintenance of the necessary

appliances to that end, the effective care and operation of such appliances, and the adoption of any other methods which, having regard to local conditions and circumstances, the prevailing extent of technical knowledge and the cost likely to be involved, may be reasonably practicable and necessary for the protection of any section of the public against the emission of poisonous or noxious gases, dust or any such fumes.

5.4.12 THE NATIONAL ENVIRONMENTAL MANAGEMENT ACT NO. 107 OF 1998

This Act aimed at providing cooperative environmental governance by establishing principles for decision-making on matters affecting environment. It also establishes opportunities for institutions that will promote cooperative governance and procedures for coordinating environmental functions exercised by organs of state; and shall provide matters connected therewith.

5.4.13 THE HAZARDOUS SUBSTANCE ACT NO. 15 OF 1973

These Acts aimed at providing for the control of substances which may cause injury or ill-health to or death of human beings by reason of their toxic, corrosive irritant, strongly sensitizing or flammable nature of the generation of the divisions of such substances.

5.4.14 THE WHITE PAPER ON TRANSFORMING SERVICE DELIVERY:
BATHO PELE POLICY

The White Paper on the Transformation of the Public Service has set out eight transformation priorities, amongst which Transforming Service Delivery is the key. This is because a transformed South African public service will be judged by one criterion above all: its effectiveness in delivering services which meet the basic needs of all South African citizens. Improving service delivery is therefore the ultimate goal of the public service transformation programme.

Eight principles for transforming public service delivery – the *Bathe Pele* principles – have been identified. These are expressed in broad terms in order to enable national and provincial departments to apply them in accordance with their own needs and circumstances.

5.4.15 THE DEVELOPMENT FACILITATION ACT NO. 6 of 1995

The Development Facilitation Act principles state that all laws, policies and administrative practices affecting land development should:

- Facilitate the development of both formal and informal existing;
and
- Discourage land invasions without ignoring the reality and history of informal land development processes.
- Promote efficient and integrated land development that, among other things: integrates rural and urban areas

- Promote development of housing and work opportunities near to each other, and encourage environmentally sustainable practices and processes.

5.4.16 THE LESS FORMAL TOWNSHIP ESTABLISHMENT ACT NO. 113 OF 1991

The purpose of the act is to provide for shortened procedures for the designation, provision and development of land, and the establishment of townships, for less formal forms of residential settlement also to regulate the use of land by tribal communities for communal forms of residential settlement; and to provide for matters connected therewith.

5.4.17 LOCAL GOVERNMENT: MUNICIPAL STRUCTURES ACT NO. 117 OF 1998

Section 44 (e) states that the functions and powers of the executive committee are to “oversee the provision of services to communities in the municipalities in a sustainable manner”.

Section 56 (e) states that the functions and powers of an executive mayor are to “oversee the provision of services to communities in the municipalities in a sustainable manner”.

Uncertainty exists in that the Municipal Structures Act, 1998 does not state if these services must be rendered to people occupying land illegally as well.

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5.5 CONCLUSION

Uncertainty about the classification of the Ducat informal housing community has restricted service delivery since the time that these people have settled on the land illegally.

Initially Ducats informal settlement was only seen as a temporary measure. The residence were to be relocated at some or other stage. Due to political uncertainty and changes at the time, these people were not relocated, nor were the Ducats seen as a formal housing community.

Land on which the first few Ducat families have settled could be regarded as an informal transit area. Services rendered to the Ducats therefore could not have been classified as services rendered to a permanent conventional town in a metropolitan area, or as a permanent village or town in a rural area as classified by the Cape Province Municipal Association in 1991, since it was meant to be of a temporary nature. A fourth type of informal housing classification existed in 1992, namely Informal towns in designated areas. This classification did not apply to the Ducat community

either, since this classification referred to serviced sites on which people could erect their own houses.

The problem of not being able to match the Ducat community with a specific category, as mentioned in the previous two paragraphs, further restricted the delivery of appropriate environmental health services to the said community.

The standard set by the provincial authorities for the delivery of Environmental Health services to the Ducats informal housing community was low and very basic in 1992. Only pit latrines or bucket latrines were required as a means of sanitation, tanks for water supply and skips for the disposal of waste.

Other Environmental Health services such as pest control, communicable disease control, air pollution control, radiation, occupational health issues, temperature extremes, lighting, ventilation, noise, social environment, food and meat hygiene were not required.

The Amatola Regional Services Council however rendered all the environmental health services required. The extent to which water and waste services were provided, also complied with the prescribed norms.

Baseline data have been provided by means of this study, in order to assist the different levels of government in addressing the housing and environmental health needs of the Ducat community.

5.6 RECOMMENDATIONS

This study has provided a set of Government policies and legislation which should be considered in rendering environmental health services to housing settlements in future, which also include upgrading of existing housing developments.

Uncertainty of the past decade, about rendering of Environmental Health services to people occupying land illegally, still persist. The Municipal Structures Act, 117 of 1998 requires the rendering of Environmental Health services by local authorities, but it does not state whether these services should be rendered to people occupying land illegally as well. Since this has been the biggest restriction in providing environmental health services in the past, it is recommended that Government address this uncertainty.

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[Feb 2003]

1.5 LEVEL OF OVERCROWDING

OCCUPANCY RATE	NUMBER	ADULTS	CHILDREN	FEMALE	MALE	PETS	OTHER

1.6 LIVE STOCK OWNERSHIP

DONKEY/HORSES	CATTLE	GOATS	DOGS	FOWLS

1.7 IDENTIFICATION

NUMBER	NAME AND SURNAME	EMPLOYMENT STATUS	IDENTIFICATION NUMBERS
1			
2			
3			
4			
5			
6			
7			
8			

1.8 QUALITY OF THE HOUSE

STRUCTURAL MATERIALS	A: MAIN HOUSE		B: BACKYARD SHACK		C: OTHER TYPE OF MATERIAL	
	MATERIAL	CONDITIONS	MATERIAL	CONDITION	MATERIAL	CONDITION
SOIL						
FOUNDATION						
FOUNDATION COVER						
FLOORS						
WALLS						
PLASTER/INSULATOR						
WINDOWS						
CEILINGS						
ROOF RUST						
ROOFING						
LIGHTING						
VENTILATION						
DOORS						
CHIMNEYS						
YARD						
DRAINS						
FENCE						

2. INJURIES IN AND AROUND THE HOUSE

DO YOU HAVE VECTOR PROBLEMS?	YES		NO	
WHAT IS SLEEP TIME AT HOME?	AVERAGE TIME TO SLEEP :			
WHAT IS WORK TIME?	AVERAGE TIME TO WORK :			
HOW DO YOU PERCEIVE YOUR ENVIRONMENT?				
SAFE PLACE TO LIVE :		UNSATISFACTORY		
HAVE ACCIDENTS OCCURRED IN YOUR HOME:	YES		NO	
DO YOU KEEP POISONOUS-FLAMMABLE SUBSTANCES?	YES		NO	
WAS THERE A DEATH IN THE PAST 6 MONTHS ?	YES		NO	

3. AVAILABILITY AND PROVISION OF SERVICES

LIGHTING							
GAS		PARAFFIN			WOOD		COAL
CANDLE		OTHER					
COOKING							
GAS		PARAFFIN			WOOD		COAL
PLASTIC		OTHER					
HEATING							
GAS		PARAFFIN			WOOD		COAL
PLASTIC		OTHER					

3.1 WATER SOURCE

FROM WHICH THE FOLLOWING SOURCES OF DRINKING WATER IS AVAILABLE TO THE OCCUPANTS OF THE DWELLING

TAP		STANDPIPE		WELL		RIVER		GAM		OTHER	
-----	--	-----------	--	------	--	-------	--	-----	--	-------	--

3.8 WASTE WATER

ON SITE	PIPE SYSTEM OFF SITE	OTHER SYSTEM	NO SYSTEM PROVIDED

4. REFUSE DISPOSAL SERVICES

HOW IS YOUR REFUSE DISPOSED OF?

	SKIP CONTAINER		DRUM		OTHER	
--	----------------	--	------	--	-------	--

4.1 Who is rendering this service to your area?

	ELTLC		ADC		OTHER		NONE	
--	-------	--	-----	--	-------	--	------	--

If your answer is "NONE" how do you dispose of your garbage?

	OPEN DUMPING		BURNING		BURY IN "BACK YARD"	
--	--------------	--	---------	--	---------------------	--

4.3 How far is the dump site from your house?

Less than 100M	More than 150M	More than 200M	Less than 500M	More than 1000M	Other

4.4 Is there any problems caused by the dump site?

Yes		No	
-----	--	----	--

4.5 If "YES" what type of problems?

SKIN DISEASE		AIR POLLUTION		DUST		SMOKE	
ACCIDENTS		FOOD POISONING		CHILD DELINQUENCY		SCAVENGING	

5.6 What would you say is the distance to the nearest health facility?

CLINIC/DAY HOSP.	LESS THAN 1 KM		1 KM TO 5 KM		5 KM OR MORE	
HOSPITAL	LESS THAN 1 KM		1 TO 5 KM		5 KM OR MORE	
NURSES/MOBILE CLINIC	LESS THAN 1 KM		1 TO 5 KM		5 KM OR MORE	

5.7 What is the immunization status of the children in the house?

DPT	YES		NO	MEASLES	YES		NO	
POLIO	YES		NO	BCG	YES		NO	

5.8 What diseases were experienced in the household?

INITIAL AND SURNAME	THROAT	KIDNEYS	LUNGS	HEART	GASTRO	LIVER	CRAMPS	SKIN

6. CHRONIC DISEASES EXPERIENCED

DISEASE	KNOWN CASES	NEW CASES
TUBERCULOSIS		
DEPRESSION		
SEX DISEASES/INFECTIONS		
DIABETES		
OTHER DISEASES		

6.1 Do you know how to mix solutions for treatment of a child with diarrhea at home?

YES

NO

7. SAFETY AND SECURITY

7.1 What is the distance from your home to the nearest house?

ATTACHED HOUSE

LESS THAN 1 METRE

BETWEEN 1M AND 2M

FURTHER THAN 2 M

7.2 Distance to recreation amenities

HALL

PARK

ORGANIZED
SPORTS

SPORTS FIELDS

DO YOU HAVE A
SUPPORTIVE
GROUP

<3KM

>3KM

<3KM

>3KM

YES

NO

YES

NO

YES

NO

7.3 Distance and kind of supportive group

DISTANCE

LESS THAN 1 KM

1 KM TO 5 KM

5 KM TO 10 KM

KIND OF SPORT

PHYSICAL

OTHER

PHYSICAL

OTHER

PHYSICAL

OTHER

RELATIVES

CLAN

FRIENDS

STOCKVEL

7.4 Do you have somebody with substance problems in your house?

YES

NO

7.5 If yes, state name and surname?

NAME	SURNAME

7.6 What is the distance to the nearest protective amenity?

DISTANCE	LESS THAN 1 KM	1 KM TO 5 KM	5 KM TO 10 KM
KIND OF PROTECTION			
POLICE STATION			
JAIL/COURT			
MORTUARY			
CEMETERY			
FIRE STATION			
AMBULANCES			
TRADING PLACES			
ABATTOIR			
OLD AGE HOME			
SCHOOLS/CRECHE			
STREET KIDS HOME			

8. CRIME AND ASSAULT

7.1 How do you perceive your environment in terms of:

TYPE OF CRIME	RATINGS OF THE CRIME ACTIVITIES			
	PREFERABLE	REASONABLE	BAD	UNACCEPTABLE
THEFT				
ROBBERY				
STEALING OF MOTORS				
HOUSEBREAKING				

8.1 Type of assault			
COMMON ASSAULT			
ASSAULT GRIEVOUS BODILY HARM			
MURDER			
RAPE			
WOMEN ABUSE			
CHILD MOLESTATION			
CRIMEN INJURIA			

9. GENERAL REMARK AND RECOMMENDATIONS

10. INTERVIEWER / OBSERVER CODES							
INCOME		SOURCE		TYPE OF HOUSE		MARITAL STATUS	
	RAND	SE	SELF EMPLOYED	F	FORMAL	TM	TRADITIONAL
1	0 - 800	G	GRANTS	B	BACKYARD	LM	LEGAL
2	801 - 1500	W	WAGES	IN	INFORMAL	D	DIVORCE
3	1500 - 2500	P	PENSION	SF	SEMI-FORMAL	W	WIDOW
4	2501 - 3500	O	OTHER SOURCE	O	OTHER	S	SEPARATED
5	3500 PLUS					E	ESTRANGED