

**ENVIRONMENTAL JUSTICE AND THE LONG-TERM IMPACTS OF  
LARGE DAM PROJECTS:**

**A CASE STUDY OF COMMUNITIES DISPLACED BY THE  
INANDA DAM, DURBAN**

**BY**

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## ABSTRACT

Inanda Dam situated near Durban in the Mngeni River, in the province of KwaZulu-Natal was completed in the late 1980s. As a typical large dam of the modern era, one major impact of the dam was the displacement and resettlement of over 1300 rural households living under communal (“tribal”) tenure. Households were relocated to different places some kilometres away from their original places. These new relocation areas, where different tenure and other arrangements prevailed, then became their permanent residential location. This study was initiated to investigate two key issues. It sought to understand how the relocation altered the quality of life of removed families. It also sought to explore adaptation strategies adopted by the settlers and constraints to effective adaptation.

Primary data were collected by means of in-depth interviews and direct observation of certain indicators of quality of life in the study area, over a period of five months. Fourteen households participated in the study. Simple quantitative methods were used to supplement the overall qualitative research design. Because of the small sample that was used, the study is perhaps not widely generalizable. However the study does provide insights into the long-term impacts of this inadequately mitigated displacement. It is also a case study of the nature of long-term environmental injustice and disruption associated with the construction of large dams. This is an injustice made worse by the political system of apartheid prevailing when the dam was planned and built.

The general findings are that the dam did impact negatively on the quality of life of the displaced families. Thirteen years after compulsory relocation, the quality of life of several families has deteriorated instead of slowly improving. While the process of adaptation for some families has been easy, other families are still battling to reconstruct their livelihoods and quality of life. Where benefits of access to services such as potable piped water and electricity are enjoyed, these benefits are overshadowed by inability to pay and lack of access to other goods such as proper housing and adequate land. Loss of access to common property resources has meant a shift towards more money-based livelihood generation strategies. Constraints to adaptation are both internal and external. Low levels of socio-economic status, poor access to environmental resources and the unfavourable political conditions in the relocation areas are some of the major constraints to effective adaptation. While the individual and group coping strategies employed have assisted families in the

adaptation process, it is argued that the inadequacy of state support mechanisms significantly retarded the ability of households to adapt to life in the relocation areas.

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## **PREFACE**

The research work was conducted in Durban, KwaZulu-Natal, South Africa. The research was mainly conducted in four of the 418 planning units of the Durban Unicity Council. These are Dinabakubo located near the small town of Hillcrest and Waterfall suburb, Ntuzuma G located near Phoenix Industrial Area, Amatikwe also located near Phoenix Industrial Area and Imbozamo located further upstream of Inanda dam. A supplementary interview was conducted in Fredville located near Cato Ridge Industrial Area.

This research study was commenced in 2000 under the supervision of Dr Shirley Brooks of the University of Natal, Durban. The whole thesis is the researcher's work and has not been submitted in part or in whole, to any other institution.

The recommendations made are the researcher's. In other words they do not reflect the interests of research sponsors or any other persons.

<b>TABLE OF CONTENTS</b> .....	Page
ABSTRACT .....	i
ACKNOWLEDGEMENTS .....	iii
PREFACE.....	iv
TABLE OF CONTENTS.....	v
LIST OF FIGURES, TABLES AND PLATES .....	x
ACRONYMS.....	xii

## **CHAPTER ONE: INTRODUCTION**

1.1 INTRODUCTION .....	1
1.2 AIM OF THE STUDY.....	1
1.3 A BRIEF CONTEXT .....	2
1.4 RESEARCH OBJECTIVES .....	4
1.5 THE STRUCTURE OF THIS THESIS .....	4
1.6 CONCLUSION.....	5

## **CHAPTER TWO: DAMS AND SOCIETY**

2. 1 INTRODUCTION .....	6
2. 2 A BRIEF HISTORY OF DAMS .....	6
2. 3 THE DEBATE ABOUT LARGE DAMS .....	8
2.3.1 Displacement and resettlement impacts.....	11
2. 4 TRADITIONAL DECISION MAKING AND ITS INADEQUACY.....	14
2. 5 THIRD WORLD “TECHNO-GIANTISM” AND REACTION AGAINST DAMS...	15
2. 6 CONCLUSION.....	18

## **CHAPTER THREE: THEORETICAL FRAMEWORK AND CONCEPTUAL MODELS**

3.1 INTRODUCTION .....	19
3.2 JUSTICE AND THE ENVIRONMENT .....	19
3.2.1 Environmental justice .....	20
3.2.2 Debates about social justice .....	21
3.2.3 Environmental justice, large dams and the South African context .....	23
3.3 MEASURING THE SOCIO-ECONOMIC EFFECTS .....	25
3.3.1 Measuring quality of life .....	27
3.3.2 The “Risk and Reconstruction” model .....	29
3.3.3 Stages of resettlement .....	31
3.3.4 Resilience and attitudes to adaptation .....	32
3.4 CONCLUSION .....	34

## **CHAPTER FOUR: BACKGROUND TO THE STUDY**

4.1 INTRODUCTION .....	35
4.2 INANDA DAM: LOCATION AND RATIONALE .....	35
4.3 PROJECT PLANNING AND IMPLEMENTATION .....	37
4.3.1 Displacement and resettlement .....	38
4.4 THE STUDY AREAS .....	39
4.4.1 Study area 1: Kwa-Dinabakubo .....	39
4.4.2 Study area 2: Ntuzuma G .....	40
4.4.3 Study area 3: Amatikwe .....	41
4.4.4 Fredville .....	41
4.4.5 Control study area: Imbozamo .....	42

4.5 CONCLUSION .....	42
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## **CHAPTER FIVE: METHODOLOGY**

5.1 INTRODUCTION .....	43
5.2 RESEARCH PHILOSOPHY AND APPROACH TO THE STUDY .....	44
5.3 METHODS OF DATA COLLECTION .....	45
5.3.1 Primary sources of data.....	46
5.3.2 Secondary data sources .....	48
5.3.3 Selection of study sites.....	48
5.3.4 Sampling process.....	50
5.4 METHOD OF DATA ANALYSIS AND PRESENTATION .....	53
5.5 CONCLUSION .....	55

## **CHAPTER SIX: THE IMPACT OF THE INANDA DAM ON THE QUALITY OF LIFE OF DISPLACED AND RESETTLED HOUSEHOLDS**

6.1 INTRODUCTION .....	56
6.2 ACCESS TO COMMON PROPERTY ENVIRONMENTAL RESOURCES .....	58
6.2.1 Access to land .....	58
6.2.2 Access to water .....	59
6.2.3 Access to energy sources .....	64
6.3 ACCESS TO WAGE AND INFORMAL EMPLOYMENT .....	68
6.4 FOOD SECURITY .....	70
6.4.1 Land cultivation .....	71
6.4.2 Access to livestock.....	71
6.5 HOUSING AND LIVING CONDITIONS .....	72
6.5.1 Household crowding.....	73

6.6 HEALTH STATUS .....	78
6.7 SOCIAL TIES .....	79
6.8 IMPACT ON RELATIONSHIPS TO SOCIETY AND STATE.....	81
6.8.1 Human capital .....	81
6.8.2 Social status .....	82
6.9 CONCLUSION.....	85

## **CHAPTER SEVEN: RESETTLED COMMUNITIES AND THE PROCESS OF ADAPTATION**

7.1 INTRODUCTION .....	87
7.2 STATE SUPPORT MECHANISMS.....	88
7.2.1 Compensatory land .....	88
7.2.2 Compensatory housing.....	89
7.2.3 Water provision.....	90
7.2.4 Compensatory money .....	90
7.3 ADAPTING TO RESETTLEMENT .....	92
7.3.1 Attitudes to adaptation.....	92
7.3.2 Developing community organizations and combating marginalization.....	93
7.3.3 Confronting loss of access to common property resources.....	96
7.3.3.1 Land .....	96
7.3.3.2 Firewood .....	98
7.3.3.3 Water.....	100
7.3.4 Restoring food security.....	101
7.3.5 Rebuilding housing.....	102
7.4 CONSTRAINTS TO ADAPTATION.....	106

7.4.1 Rules and regulations.....	108
7.4.2 Low level of socio-economic status.....	108
7.4.3 Strong community organization.....	109
7.4.4 Weak community organization.....	110
7.4.5 Unfavourable urban biophysical environment.....	111
7.4.6 Conflict in relocation areas.....	112
7.4.7 Lack of transparency and accountability of development schemes.....	114
7.5 CONCLUSION.....	115

## **CHAPTER EIGHT: CONCLUSION AND RECOMMENDATIONS**

8.1 INTRODUCTION.....	116
8.2 SUMMARY OF THE MAIN FINDINGS.....	116
8.2.1 Outline of the key findings.....	117
8.3 RECOMMENDATIONS.....	120
8.3.1 Need for intervention to correct past injustices.....	121
8.3.2 Need for the provision of housing.....	122
8.3.3 Need for the provision of basic services.....	122
8.3.4 Need to clarify the unresolved conflict over land and money.....	123
8.4 CONCLUSION.....	124
<b>REFERENCES.....</b>	<b>125</b>

**APPENDIX A:** Details of interviews

**APPENDIX B:** Extract from unstructured interview

**APPENDIX C:** E-mail correspondence

**APPENDIX D:** An article from the City Press newspaper

## LIST OF TABLES, FIGURES AND PLATES

### LIST OF TABLES

Table 2.1: Selected cases of resettlement due to large dams .....	13
Table 3.1: Cernea's impoverishment risks and explanation .....	29
Table 6.1: Comparing Cernea's categories with those used in this chapter .....	56
Table 6.2: Water access in the study areas.....	63
Table 6.3: Access to energy in the study areas .....	67
Table 7.1 Compensation breakdown for eleven families visited.....	91
Table 7. 2 Qualitative comparison of the three relocation areas.....	97
Table 7. 3 Comparison of the three relocation areas in terms of access to energy .....	99
Table 7. 4 Comparison of the three relocation areas in terms of access to water.....	101
Table 7.5 Qualitative comparison of the eleven households.....	105
Table 7.6 Major constraints to effective adaptation across the relocation areas.....	107

### LIST OF FIGURES

Figure 2.1: World population of dams by country.....	8
Figure 3.1: The relationship between the various theoretical ideas.....	26
Figure 3.2: Perceived usefulness of a good, or service and lack of access to it over time..	28
Figure 4.1: The location of Inanda Dam in relation to the study areas .....	36
Figure 6.1: Household density in the study areas .....	59
Figure 6.2: Comparison of study areas in terms of access to piped water supply .....	60
Figure 6.3: Comparison of the study areas in terms of access electricity .....	65
Figure 6.4: Comparison of the study in terms of employment levels .....	69
Figure 6.5: The past and present room occupancy ratios in the relocation areas .....	74
Figure 6.6: Summary of changes in access to tangible resources .....	77

Figure 6.7: Relationship between perceived usefulness of a good/service and access or lack of access to it over time .....	84
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#### LIST OF PLATES

Plate 4.1: Photograph showing a portion of Dinabakubo settlement.....	39
Plate 4.2: Photograph showing a portion of Ntuzuma G settlement.....	40
Plate 4.3: Photograph showing a portion of Amatikwe settlement.....	41
Plate 4.4: Photograph showing part of Imbozamo area .....	42
Plate 6.1: Grazing cattle in Imbozamo control area.....	72
Plate 7.1: The Nxumalo family in Ntuzuma G .....	89
Plate 7.2: Mr Gumede collecting some pieces of woodlots.....	99
Plate 7.3: Women in Dinabakubo doing washing in the open but dirty spring.....	100
Plate 7.4: Mrs Mntambo and her daughter cultivating small plot.....	102
Plate 7.5: A “tin” house supplemented with a 3-room mud house in Dinabakubo.....	103
Plate 7.6: The Thabede family <i>Masakhisane</i> house in Ntuzuma G.....	104

**ACRONYMS**

**ANC:** African National Congress

**CBA:** Cost Benefit Analysis

**DA:** Democratic Alliance

**DDA:** Department of Development Aid

**EIA:** Environmental Impact Assessment

**ICOLD:** International Commission on Large Dams

**IFP:** Inkatha Freedom Party

**IRN:** International Rivers Network

**JSB:** Joint Services Board

**KZNPA:** KwaZulu-Natal Provincial Administration

**LHWP:** Lesotho Highlands Water Project

**NGOs:** Non-Governmental Organisations

**QOL:** Quality of life

**SADT:** South African Development Trust

**USA:** United States of America

**WCD:** World Commission on Large Dams

## **CHAPTER ONE**

### **INTRODUCTION**

#### **1.1 INTRODUCTION**

The history of dams is long and is characterized by worldwide changes in the purposes and approaches to building dams. Large dams in particular are a feature of twentieth-century engineering and development, especially in Third World contexts. The literature provides evidence of both negative and positive impacts associated with large dams. While positive impacts do occur, negative impacts related to the nature and extent of large dams raise many questions of environmental and social justice. Dams are important in that they store water for hydroelectric power generation, potable domestic water supply, flood management, industrial development, agricultural development, and recreational activities. However, millions of people mostly in less developed countries have been exposed to their adverse impacts. One such major impact is involuntary displacement and resettlement.

This thesis focuses on the impacts of the Inanda dam on the outskirts of the metropolitan centre of Durban, South Africa. The building of this dam triggered involuntary displacement and resettlement of the people of four tribal authority areas. Inanda Dam, constructed in the 1980s, flooded approximately 1623 hectares of communally owned or tribal land and displaced approximately 1356 families (Khanyile, 1998). Because this occurred during the apartheid period, little regard was shown for African families, the main victims of the dam. This chapter outlines the aim and objectives of the study and, the rationale for undertaking it is clarified. The structure and the content of the individual chapters are also explained.

#### **1.2 AIM OF THE STUDY**

Many studies discuss the immediate impacts of large dams on resettled populations. However, there are many long-term effects, which can only be traced through follow-up studies a decade or more later. In this case, the Inanda dam removals occurred thirteen

years ago. Thirteen years after the dam was completed, the vital question that still remains unanswered is, has the quality of life of forcibly displaced and resettled populations improved or worsened and why? With this focus in mind, the aim of this study is two fold. On the one hand, it seeks to understand in detail how the Inanda dam changed the quality of life of the families it displaced and resettled. On the other hand, the study seeks to understand families' adaptation to life in the relocation areas as well as the specific factors that hamper effective adaptation.

This research thus contributes to the overall debate about large dams by focusing on the particular case of the Inanda dam. It provides an insight into the extent and nature of long-term impacts, in a case where measures to mitigate the adverse impacts were inadequate. The context and significance of the study are explained more fully in the next section.

### **1.3 A BRIEF CONTEXT**

The literature indicates that most studies of the impacts of large dams have been short-term and confined to the years immediately following dam construction (Thomas and Adams, 1999). In Africa, reviews of the impacts of large dams on the inhabitants of floodplains stress the adverse impacts of these developments. These studies confirm that changes in the floodplains have left populations impoverished and vulnerable (Thomas and Adams, 1999). This has been found to be the case with impacts downstream, upstream, in the dam inundation areas as well as in the relocation areas of forcibly displaced populations.

Lerer and Scudder (1999) have noted that the success or failure of resettlement and compensation may only be clear many years after the completion of a large dam. This statement therefore, casts doubt on the reliability of short-term studies as a basis to explain long-term impacts. As is the case with the Tiga dam in Northern Nigeria, floodplain inhabitants may in the long term adapt well to the alterations that have taken place in their environments. In a study of the changes that have occurred twenty years since the Tiga dam was constructed, Thomas and Adams (1999) found that, farmers have managed to adapt their agriculture in the floodplain downstream, despite the adverse short-term impacts of the dam to the environment.

In other cases, the findings are less positive. In contrast to the Tiga Dam, the experience of Brazilians resettled by the Itaparica dam has been a painful one. After ten years of waiting for promised irrigation water from the dam, more than half of approximately 40 000 resettled people have not been provided with water (Switkes 1998: 7). A decade after the compulsory displacement of the Itaparica populations in Brazil, it has been noted that the actual social conditions for the majority of these people are worse than before the construction of the dam (Switkes, 1998). An African example is studies done thirty-nine years after the Kariba dam was built on the Zambezi River. These studies revealed that the displaced people now survive mostly on handouts from government, while before the resettlement occurred the community was self-sufficient in every respect (Hanyonga, 1998: 11).

Lerer and Scudder (1999) and Thomas and Adams (1999) have pointed out the need for long-term follow-ups. These follow-ups need to target the most vulnerable households. Studies are required that will evaluate the ways in which communities adapt in the long term to the changes caused by dams in their environments (Thomas and Adams, 1999; Lerer and Scudder, 1999 and Cernea, 1997). According to Cernea (1997), most studies have also tended to focus on the description of and exploration of displacement pathologies rather than on resettlement successes, hence in some cases the impoverishment process is over-emphasized and there is less empirical research on reconstructive aspects.

In the case of the Inanda dam, news about the dam appeared in the media before and during the construction phases. Studies were conducted to identify and predict short-term impacts of the dam on the displaced families. Academics at the University of Natal, Scott and Diab (1989) did one such study. However, it has been more than a decade since the dam was completed. Since then, many changes have taken place in the livelihoods of resettled populations. There is no evidence of any follow up studies on how families displaced by the Inanda dam have adapted in the relocation areas – despite the fact that compensation was poorly handled at the time.

This study was initiated in order to put the Inanda dam issue back into the South African debate about environmental injustice and in the context of the global ongoing debate on the impact of large dams on the environment. While the impact of large dams is broad, this study placed more focus on the socio-economic impacts, with particular attention placed

on the experience of involuntary resettlement and subsequent adaptation strategies. In achieving the aim as discussed in section 1.2 above, four objectives were developed and are outlined below.

#### **1.4 RESEARCH OBJECTIVES**

- To examine the material impacts of the dam by comparing the situation before displacement with that in resettlement areas.
- To determine resettlers' feelings and attitudes on how their quality of life (QOL) has changed as a result of the relocation.
- To investigate how families have adapted in the relocation areas.
- To identify constraints to effective adaptation.

#### **1.5 THE STRUCTURE OF THIS THESIS**

The thesis consists of eight chapters. While the current chapter provides an introduction to the study, Chapters Two and Three examine the literature on large dams. Chapter Two provides an account of the general literature on dams and society. It examines the history of water projects such as dams and changes that have taken place in the design and implementation processes. It appears that major changes have taken place and these changes have been brought about by various reactions to the traditional planning approaches and the associated adverse impacts. Chapter Three examines theories of environmental and social justice. They are used as a guiding framework in the interpretation of results of this study. It also explains particular conceptual tools and models useful in the analysis.

Chapter Four provides a brief background to the study area. This includes a description of the spatial location of Inanda dam in relation to the resettlement areas. The chapter discusses the manner in which resettlement was handled and also provides a brief description of the relocation areas.

Chapter Five discusses the research methodology adopted in the study. The practical aspects of the research are discussed, including methods of data collection, sampling and

analysis. The chapter also explains the theoretical underpinnings of the research methodology. In other words, an attempt is made to link the conceptual aspects with the actual techniques that the researcher adopted in the collection and interpretation of primary and secondary data.

The findings of the study are presented and analysed in Chapters Six and Seven. Chapter Six focuses on the impacts of the dam on peoples' lives and livelihoods. It attempts to describe and discuss how the Inanda dam changed the quality of life of families it displaced and resettled. It focuses on both objective and subjective indicators of quality of life. This chapter thus attempts to fulfil the first part of the study aim outlined in section 1.2 above. The analysis is guided by the first and second research objectives.

Chapter Seven describes and explains the process of adaptation in relocation areas. While the focus is placed on reconstructive initiatives, the chapter also discusses those forces that hinder effective adaptation. The Chapter is guided by the third and fourth research objectives. Finally, Chapter Eight provides a conclusion to the study and makes certain recommendations regarding the mitigation of constraints to effective adaptation.

## **1.6 CONCLUSION**

This chapter introduced the reader to the research problem at the heart of this study. The chapter has given a brief description of the aim, objectives and approach of the study. It has made attempts to link the Inanda dam case study with the global trends and thus clarified the significance of the research. It is suggested that, when reading all the other chapters of the thesis, the reader keeps revisiting this chapter. This will allow the reader to see how the aim and objectives (derived from the literature review) have structured the thesis. This will also allow the reader to determine the extent to which the aim and objectives have been achieved. The literature review follows in Chapters Two and Three.

## **CHAPTER TWO**

### **DAMS AND SOCIETY**

#### **2.1 INTRODUCTION**

Having introduced the study and discussed the aim and objectives in the previous chapter, this chapter provides a review of the literature on large dam projects. The chapter is divided into four main sections. The first section gives a brief history of dams. Section two provides debates about the impacts of these projects. Both positive and negative impacts on the biophysical and on the socio-economic environments are discussed. Particular attention is placed on the issues of involuntary resettlement and displacement. Section three provides an account of the traditional decision-making tools and their failure to avoid impoverishment of the displaced populations. Lastly, the researcher examines the nature of the reaction against large dams. The argument is created that this reaction responds to the flawed logic of the traditional methods of project evaluation, which have led to many undesirable and unintended consequences.

#### **2.2 A BRIEF HISTORY OF DAMS**

Ever since humans introduced agriculture and started to exploit natural resources, alterations to the environment have always occurred. This includes interruption to both biophysical and socio-economic environments. Evidence exists that dams were used at least 5000 years ago in the cradles of civilization in Babylonia, Egypt, Persia, Sri Lanka, India and China (Smith, 1990: 29). The oldest dam recorded in Jawa (Egypt) was built in 3000BC (Turpin, 1999). Humans have exploited rivers since prehistoric times.

Olivier traces early civilizations in river valleys along the Nile in Egypt and along the Tigris and Euphrates in Mesopotamia (Olivier, 1977). According to Olivier the first dam known to have been built by humans was in Northern Africa, where its remains can still be seen in an Egyptian Wadi (Olivier, 1977: 11). Assyrians, Babylonians and Persians built dams for water supply and irrigation. It has been noted that Europe generally did not feel the need for dams until the advent of the industrial revolution. During this period early

dams were limited to creating reservoirs for towns, driving water mills and replacing water losses in navigation canals (Turpin, 1999: 26).

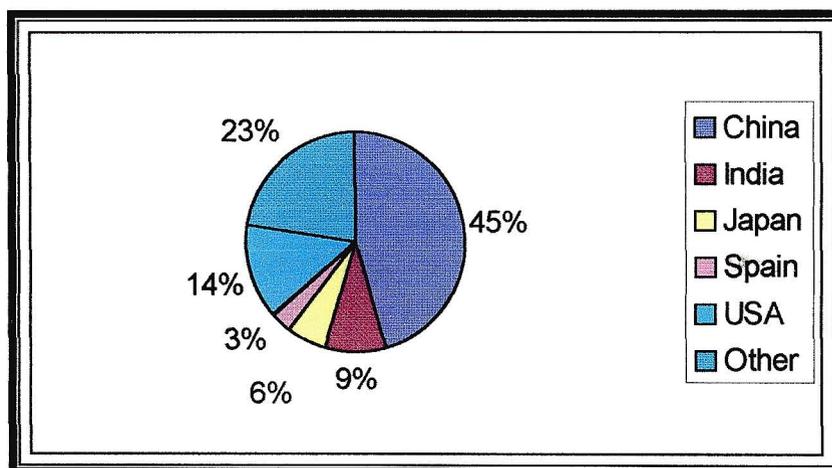
By the late 1930s at the start of the Second World War, interventions in the big river basins of Asia and the Middle East had transformed vast areas of desert land into irrigated land (Smith, 1990: 29). In India the first major diversion dams were built to irrigate several million hectares of land. According to Smith, (1990) dams in many parts of the world were now built for multi-purpose use. The focus shifted to the need for dams to generate hydroelectric power, provide water for irrigation and domestic purposes and to provide water for industrial expansion. This was made possible in part by the twentieth century technological advances, which contributed to the construction of giant dams.

The International Commission on Large Dams (ICOLD) came up with a definition of what could be regarded as a large dam. According to the ICOLD definition, all dams above 15m in height measured from the lowest portion of the general foundation area to the crest fall into the category of large dams. However, dams between 10m and 15m could still be included in this definition under certain conditions (Olivier, 1977 and Jordaan, 1994).

In 1950, more than 5000 large dams (over 15m in height) had been constructed worldwide and since then, a further 29 000 dams classified under this category have been built (Veltrop, 1990: 6). At present 40 000 large dams exist worldwide to generate hydroelectric power, provide irrigation water or serve as flood control measures (Fakir, 2000). While earlier dams were built in areas remote from human population centres, today many humans are concentrated in floodplains.

The rate at which large dams are being completed has however declined from around 1 000 a year between the 1950s and the mid 1970s, to around 260 a year during the early 1990s and more than 1 000 large dams were under construction at the beginning of 1994 (IRN, 2000). The countries with the most large dams under construction are currently China, Turkey, South Korea and Japan. (IRN, 2000). Currently China has around 22 000 large dams. The USA is the second most dammed country with some 6 575 large dams, followed by the ex-USSR, Japan and India. Brazil is in tenth place with around 569 large dams. The USA has the most major dams (50 in total) followed by the ex-USSR, Canada and then

Brazil with 16 each (IRN, 2000 and WCD, 2000). Figure 2.1 shows all countries that comparatively have many large dams.



**Figure 2.1: World population of dams by country (World Commission on Dams: 2000).**

In Southern Africa some of the most modern dams in the world have been built and are still being built, notably in areas that are rural in nature. The Lesotho Highlands Water Project (LHWP), one of the five largest dam projects in the world, is intended to supply water and generate energy for the benefit of both South Africa and Lesotho (Adams, 1992: 131). The Maguga dam being built in Swaziland will likewise benefit both South Africa and Swaziland.

In South Africa, the total number of dams including farm dams in 1977 was more than 500 000, of which 306 were classified as large dams in the 1973-74 ICOLD register (Olivier, 1977: 11). According to this register, before 1900 only four large dams were completed in South Africa. This number increased to 75 by 1946 and then to 458 by the end of 1992 (Jordaan, 1994: 198). Debates about large dams point at both the positive and negative impacts of these projects. The following section provides a discussion on these debates.

### **2.3 THE DEBATE ABOUT LARGE DAMS**

The literature on the impacts of large dams emphasises both negative and positive impacts. It should be noted that impacts are both direct and indirect. While indirect impacts accrue

both downstream and upstream, direct impacts are realized in the actual dam site. Some of these impacts are considered in this section.

Many argue that dams continue to play an important role in providing the basis for civilization. Dams store water to:

- Meet the demands for human consumption, irrigation and industrial uses;
- Protect against flooding from rivers or the sea;
- Increase available water and provide opportunities for generating hydroelectric power;
- Improve navigation by increasing the depth of water in a river;
- Provide lakes for recreation and fisheries (Veltrop, 1990).

Regional development, job creation, and fostering an industrial base with export capability are most often cited as additional considerations for building large dams. Other goals include creating income from export earnings, either through direct sales of electricity or by selling cash crops or processed products from electricity-intensive industry such as aluminium refining (WCD, 2000).

Clearly, dams can play an important role in meeting people's needs. Half the world's large dams were built exclusively or primarily for irrigation, and some 30 to 40% of the 271 million hectares irrigated worldwide rely on dams (WCD, 2000). Dams have been promoted, as an important means of meeting needs for water and energy services and as long-term strategic investments with the ability to deliver multiple benefits. Economies of countries such as China, India, Indonesia and Pakistan are said to be highly dependent on large-scale water resource developments. Irrigation provides most of their food and fibre (Veltrop, 1990).

Without dams and reservoirs the towns and cities of the world would face desperate water shortages. Electrical energy produced by the world's hydroelectric projects has largely supplanted the combustion of vast quantities of oil and coal (Veltrop, 1990). Some would even argue that the development of hydroelectric power achieved through the construction of large dams has contributed in holding global emissions of greenhouse gases at the current levels (which would be higher had dams not been built).

While this literature provides a positive account of large dams, some observers have written about the adverse impacts (both to the socio-economic and biophysical environments) of these water development projects. One indicator of the prevalence and undesirable consequences of the adverse impacts is the ongoing worldwide reaction to these projects (see section 2.5). Some of the injurious effects have included:

- The displacement and resettlement of local populations;
- Disappearance of productive agricultural land, forest and inhabited lands;
- Loss of food security;
- Spread of vector-borne diseases;
- Pollution and social problems that negatively influence health;
- Loss of wetlands and pastures (Turpin, 1999; Shen, 1998; Lerer and Scudder, 1999).

Large dams alter the hydrological cycle and biodiversity of rivers upon which depend the livelihood of riparian communities (WCD, 1999; Aguirre, 1998; Fisher, 1998; Imhof 1999). It has been realized that millions of people in Africa are dependent on the floodplains for their survival. The productivity of flood plains is related to water supply and fertility of sediments (Thomas and Adams, 1999).

African floodplain areas are argued to have been historically densely populated and have always been highly disputed areas. The fertile alluvial soils of river valleys have developed highly sophisticated social organizations and structures, for example, unique land tenure arrangements. Their inhabitants have for years acquired a keen knowledge of river basin ecology and hydrology. Large dams have therefore been seen as instruments of change in the livelihood of floodplain communities.

In Namibia, for example, thousands of semi-nomadic Ovahimba tribes are described by an anthropologist, Margaret Jacobson, as the most successful and economically independent farmers in Africa who rely on the lifeline of the Cunene river and alluvial soils on its banks (Munnik, 2000). The proposed Epupa dam supported by the Namibian government will however, destroy this valuable land. The land to be flooded includes winter grazing pastures, the scenic Epupa falls and unique floodplain ecosystem and graves (Munnik, 2000 and Forrest, 2001). As is true with many dam projects, the feasibility study of this

proposed water development project fails to give a proper calculation of the likely damage to the Ovahimba economy (Munnik, 2000 and Forrest, 2001).

The Namibia case study and the discussion above highlight just some of the negative social and ecological impacts of large dams. One major impact, which is the focus of this study, is forced displacement and resettlement of people. The following subsection provides an account of this issue.

### **2.3.1 Displacement and resettlement impacts**

Obscured by the “heroism” surrounding the building of large dams, is a history of displacement, resettlement and poverty. Resettlement has been viewed as an experience that throws a family into a state of crisis that may offer them a range of opportunities, but that exposes them to many risks (Hulewat, 1996). As a turning point, in crisis things will get either worse or better. Although resettled populations may be optimistic and eager to begin their new lives, however they still experience confusion and fear since they are uncertain about what a new life will bring for them.

According to Adams (1992: 131), the stress of resettlement is multidimensional, both psychological and socio-cultural. Bad planning and inadequate provision for resettlement often exacerbate this stress. Loss of assets, unfamiliar environments, unprepared resettlement sites, poor living conditions and hopeless economic prospects are all elements in the human and economic costs of resettlement (Adams, 1992). The literature reveals that those forced from their homes by construction and inundation often are ignored. It is assumed that they will somehow benefit from the dam. Very little, if any compensation is in many cases provided (Cernea, 1997). Movement to other areas and efforts to adapt to a new environment are part of the visible problem (WCD, 1999). The serious social trauma and conflicts that may accompany relocation is often not accounted for.

The literature reveals that in most cases, the people who are negatively affected by dam projects are not fully represented in the decision-making system. These people in many cases have no political power to influence the decisions and are already living in poor conditions. They are thus a group of people that are vulnerable due to their social and economic contexts. They resemble groups who according to Blaikie et al (1994) have

limited capacity to anticipate, cope with, resist and recover from the impacts of a disaster or hazard event. The flooding of the land for dam construction, if not properly planned for, can have the same impact on poor communities as a natural disaster.

The World Bank has provided guidelines on resettlement to ensure that the population displaced by a dam project also benefit from it (Gupta, 1990). However, it has been realized that, the guidelines are problematic in that developers are required only to “restore” living conditions. The guidelines do not require developers to implement resettlement programmes in such a manner that project-affected people are left better off. Such programmes are seen to have left the majority of displaced populations worse-off to a greater or lesser extent and for a long period of time. This is because the emphasis is not on development but on compensation and mitigation. Yet the World Bank still defends its policies (Page, 2001).

In India for example, of approximately 20 million people displaced over four decades, 75% of these people have not even been rehabilitated (Cernea, 1997). Their incomes and livelihoods have not been restored and they have been impoverished. In developed countries like the United Kingdom (UK), since there are clear guidelines for compensation as well as respect for human rights and value attached to built property, there are few cases of involuntary resettlement (Adams, 1992). Flooding people’s homes in developed countries without a very clear and strong reason is not acceptable (Adams, 1992). In contrast, the numbers of people affected by reservoirs in developing countries is remarkably high (Adams, 1992). In Africa, for example, it has been noted that development planning tends to run roughshod over the wishes of rural Africans in the name of development and progress (Adams, 1992).

Cernea (1997) has therefore argued that if not addressed properly, the impoverishment of large numbers of people by large dam projects constantly adds to the problem of worldwide poverty. The rapid onset of impoverishment according to Cernea (1997), results from the cumulative and convergent effects of eight major trends. These are landlessness, joblessness, social disarticulation, homelessness, marginalisation, increased morbidity and mortality, food insecurity and loss of access to common property. These are referred to in Chapter Three in the discussion of Cernea’s “Risk and Reconstruction Model for Resettling the Displaced People”.

Below is a list of selected cases of populations displaced by large dam projects in the past.

**Table 2.1: Selected cases of resettlement due to large dams (source: Gupta, 1990: 85).**

<b>Project</b>	<b>Country</b>	<b>Number of people displaced</b>
Three Gorges dam	China	1 250 000
Upper Krishnall dam	India	220 000
Sardar Sarovar dam	India	127 000
Aswan high dam	Egypt	100 000
Kossou dam	Ivory Coast	85 000
Akosombo dam	Ghana	84 000
Longtan dam	China	73 000
Mahaweli 1-IV	Sri-Lanka	60 000
Kariba	Zambia & Zimbabwe	57 000
Sobradhino	Brazil	55 000

Many dam victims are rural people. According to May (1996) the well being of households in rural areas is maintained through the diversification of income sources. This allows households to shelter themselves against risk in agrarian environments. Households engage in a wide range of activities in order to generate a livelihood with which they are able to achieve food security. However, the literature reveals that most relocation areas do not provide the use values householders have been enjoying in the areas they have inhabited for decades. Dams in this case are human-made hazards, which expose families to the risks of impoverishment (Cernea, 1997). Income (cash and in-kind), the social institutions (i.e. kin, family, village etc.) and gender relations required to support and sustain a given standard of living, define families' livelihood strategies in the areas of origin (Ellis, 1998). All these are disturbed as families move onto the new sites.

The forms of agricultural production in floodplains include those undertaken for own consumption as well as for sale (Cross et al, 1996). Agriculture is affected too. Agricultural activities include agri-enterprises, which produce crops for sale as independent businesses. It also includes family farming in which exchange is limited to informal networking in the community. Such external forces as dams have been seen as introducing high levels of

uncertainty into the household's livelihood strategy. Movement from an area, which has been inhabited for years to a new area, introduces various challenges to families of different vulnerability and resilience levels.

While many factors have contributed to the negative impacts discussed above, many critics point to the traditional methods of predicting risks associated with large dam construction, as one of the problems. The following section provides a description and discussion of the traditional decision support mechanism for large dam projects. It also discusses the limitations of this method including its inability to overcome impoverishment resulting from displacement and resettlement.

## **2.4 TRADITIONAL DECISION MAKING AND ITS INADEQUACY**

Traditional approaches to the evaluation of dam projects have been criticized on the grounds that they are not adequate. They have failed to achieve equity and prevent impoverishment (Cernea, 1997). The fact that research points to the negative impacts of dams exposes the poor logic of the predominant conventional response to predicting environmental and social risks. Such approaches according to Cernea (1997: 1579) have been "minimalist, residualist, and welfarist", and are still prevalent in many developing countries.

Cost-Benefit Analysis (CBA), in particular is an inadequate method of decision-making. Environmental and social problems associated with the construction of large dams are very complex and are not fully addressed by this commonly used method. Costs of a particular development project have only included materials, labour, interest on borrowed capital and other easily quantifiable items (Lee, 1985: 8). Benefits on the other hand have typically included the stream of revenues generated by the project. Cernea (1999) has noted that this strategy overlooks distributional patterns. The method is criticized mainly on the grounds that it does not account for the risks accruing to various subsets of individuals. It has been realized that harm caused to individual families by displacement for example, cannot be outweighed or explained by benefit to other communities or by the aggregate of project benefits, independent of their allocation (Cernea, 1999).

Formal CBA is constructed on the basis of the so-called Hicks-Kaldor *hypothetical compensation criterion*, also known as the ‘potential pareto improvement criterion’ (Turner and O’Riordan, 1982). This compensation criterion establishes that any project, which yields sufficient benefits to some individuals such that these gainers could hypothetically compensate the losers from the project and still remain better off themselves, is desirable in efficiency terms. However, Turner and O’Riordan (1982) have noted that it is still possible that due to the effects of a project the poor sections of a community can be made relatively poorer and the rich relatively richer. This idea of ‘greater good for the greater numbers’ has been argued to violate development philosophy and more specifically social justice. It is these unintended but disastrous effects that have triggered reaction against these techno-giants, discussed in the next subsection.

## **2.5 THIRD WORLD “TECHNO-GIANTISM” AND REACTION AGAINST LARGE DAMS**

While the literature on the impacts of large dams stresses both the positive and negative aspects of dams, it is the nature of the negative impacts that have triggered reaction against these projects. For many critics of the past approaches adopted in the management of water resources such as dams, the pathologies are due to the fact that socio-economic impacts tend to be less dominant in project design than biophysical impacts of the project. Critics have put strong blame on the domination of fields like hydrology, engineering, geology and economics in the design of water projects. Adams has argued that disciplines like sociology and anthropology or development studies have rarely been given a professional role to play, and where they have it has been a token one (Adams 1992).

According to Forrest (2001) dams in the Third World have always been regarded as a powerful symbol of modernization. The water policy-makers tame and exploit the environment for the purpose of rapid economic development. Economic development however is not the only goal as the establishment of mega-control over natural resources is used to strengthen the political and administrative power of the ruling elites (Forrest, 2001). Dams have therefore been treated as a means of gaining prestige. They are perceived as heroic engineering projects demonstrating the powers of science and are pushed by national and multinational corporations (Forrest, 2001). They are “techno-giants” beloved by Third World elites.

Fakir (2000) has argued that there are often lies and intrigues in the building of large dams. The process involves interaction between individuals and institutions with different hidden and sometimes conflicting agendas. For large lending institutions dams are a source of revenue since they lock countries into loan financing schemes for years. The more dams are built the more competition arises between banks, engineering firms and government to grab the “big deal” (Turpin, 1999). This results in an increased burden of debt repayments while ensuring a guaranteed income for the banks (Fakir, 2000).

In the past it was the politicians, government, civil servants and irrigation users who made decisions largely unchallenged. In the post-modern era, the development effectiveness of these projects is a major worldwide concern. It is now the conservationists, ecological movements, social movements of various kinds, associations of affected parties, scholars and researchers from different disciplines, regional movements and consumer groups which are providing new voices and approaches (WCD, 2000).

In many countries the basis for decision-making has become more open, inclusive and transparent. The decision to build a large dam has therefore been increasingly challenged, to the point where the future of large dam building in many countries is in question. The huge investments and widespread impacts of large dams have seen conflicts erupt over their siting and impacts.

The Namibian case of the Himba tribe, mentioned earlier provides a good example of this. Here the plight of the Himba people, along with the likely environmental damage of the dam, has motivated a big public outcry and an international campaign to stop the project. Namibian environmental activists, the Namibian Land Tenure Centre, human rights lawyers, Kaokoland-based NGOs, political activists, educational leaders and various independent supporters of the Himba have mobilized their resources within Namibia and abroad (Forrest, 2001). This example indicates that large dams are beginning to emerge as one of the most hotly contested issues in sustainable development in this era.

In recent years Environmental Impact Assessment (EIA) as a process has become a requirement for such water resource development projects. As a relatively new technique EIA is responding to the flawed logic of the modern methods such as CBA, which

observers criticise. EIA is specifically designed to look at both the nature (characteristics) and distribution (spatial spread, timing and effects on particular groups of society) of impacts that might result from a proposed action or programme initiative (Turner and O'Riordan, 1982). EIA therefore deals with those effects that are not quantifiable in money terms and hence which cannot be included in Cost-Benefit evaluations.

The EIA legislation exists in South Africa and guidelines for best practices in EIA have been laid down. However the legislation is still in its infancy. As development projects that impact on the environment, dams are included in the legislation as projects that need to have EIA done. The problem however is that EIA can only serve as security to mitigate possible future impacts that might result from proposed projects or policies. The question is, what about the past, that is, the unmitigated impacts from such projects? Whose responsibility is it to look after the negative impacts of such past projects? These are all questions that pose many challenges to the states where disputes about dams have re-emerged and are again forming part of the public debate. The debate shares much with current debates about reparation for past injustices (such as slavery or racial oppression).

Formal political structures such as the World Commission on Dams (WCD) are now emerging. In response to the conflicts and pressures, the WCD began its work in May 1998. The Commission however did not serve as a judicial commission, and was not set up to adjudicate on specific disputes, but rather to act as an advisory commission. Comprising of commissioners from all over the world from different sectors, one of the Commissioners' first points of agreement was that dams are only a means to an end. The 'end' that any project achieves must be the sustainable improvement of human welfare (WCD, 2000). This means a significant advance of human development on a basis that is economically viable, socially equitable and environmentally sustainable. If a large dam should be the best way to achieve this goal, it deserves support. Where other options offer better solutions, they should be favoured over large dams (WCD, 2000).

## **2.6 CONCLUSION**

This chapter has provided a review of the literature on large dams and their impacts on societies. The issues of the impacts of dams on the biophysical and socio-economic environments have been covered. The debate around dams challenges views of how

societies develop and manage water resources in the broader context of development choices. The broader debate is around the issues of environmental and social justice. The following chapter provides an account of the conceptual tools and models that can be used to interpret the impacts of large dam projects.

## **CHAPTER THREE**

### **THEORETICAL FRAMEWORK AND CONCEPTUAL MODELS**

#### **3.1 INTRODUCTION**

The previous chapter provided a discussion on the general literature on large dams. The aim of this chapter is to provide the theoretical tools and models that can be used to interpret and understand the long-term experiences of the families displaced by infrastructural developments such as dam projects. The chapter is divided into two major sections. Since much of the debate about large dams centres on issues of environmental justice, section one of this chapter provides an account of academic debates around environmental justice. Issues of social justice are covered. Environmental justice is a broad conceptual framework rather than a specific tool that framed the understanding and explanation of issues in this study.

The question is how does one actually measure the impacts and consider issues of compensation in a particular case (in this case Inanda dam and resettled people)? The second section of this chapter therefore presents some potential conceptual tools and models that can be used to structure the analysis. These in conjunction with the broader theories of environmental and social justice were used to provide an interpretation of the results of the study. They also informed the research methodology.

#### **3.2 JUSTICE AND THE ENVIRONMENT**

As already explained in the previous chapter the building of dams involves the distribution of costs and benefits among various affected parties. In this thesis the theory of justice therefore helped to describe and make sense of the long-term experiences of the households studied. The theory of justice is broad. It has been used as a way of measuring what is desirable in the relationships between human beings, as well as in human relations with the non-human world. Two aspects, which are of relevance to this study, are environmental and social justice. The following section provides a discussion on the debates around environmental justice.

### 3.2.1 Environmental justice

The environmental justice movement has been described as a social movement with its origins from grassroots campaign of local communities in the 1970s in USA (Cutter, 1995; Goldman, 1996; Low and Gleeson, 1998). Many authors according to Dodson describe rather than strictly define environmental justice (Dodson, 2001). One major reason for the variation in definitions could be due to the different schools of thought environmentalists come from. The environmental justice debate can be anthropocentric or it can be ecocentric. In other words it can be biased towards the socio-economic environment or towards the biophysical environment.

Those who hold anthropocentric views locate environmental justice firmly within the framework of human beings. They use such statements as “people being deprived of their environmental rights”, and focus on the relationship between the marginalized groups and environmental issues, citizen’s rights, the limited participation of non-whites in environmental affairs, the need for political action and social mobilization (Dodson, 2001). These activities mainly extend social justice to include the right to a clean and healthy environment for all human beings.

While these views dominate the environmental justice movement, some authors however extend environmental justice thinking from a distributional definition to a more global and ethical definition. This then includes not only rights for people but also rights for the natural environment. This is where such notions as ecological justice come in. This is the notion, which is closely related to those maintaining ecocentric/ life-centred world-views. Ecological justice is an “ethical postulate” mainly concerned with the “moral relationship humans have with non-human beings”. It argues that the natural environment has a right to exist irrespective of its use-value to human beings (Low and Gleeson, 1998). In other words, more focus here is placed on “green agenda” issues.

Since the core of this thesis is the impact of the dam on the quality of life of the displaced people, the environmental justice concept used in this research is guided by a more human-centred (anthropocentric) approach. More focus is placed on the “brown agenda” issues. In this sense, environmental justice represents a particular approach to social justice. The social justice debates are more complex and are briefly reviewed in the next subsection.

### 3.2.2 Debates about social justice

Social justice as a goal has been debated for centuries. Various theories of social justice exist and they vary from mainstream theories to criticisms of these. The mainstream theories include egalitarianism, utilitarianism, libertarianism and contractarianism. These have been challenged by the theories of Marxism, communitarianism and feminism. The theories of social justice are complex, but seem to be embedded around the distribution of economic and social wealth.

Social justice has normally been taken to imply that there are certain things individuals have an entitlement to merely by virtue of their membership of society (Boucher, 1998: 83). These things may include not only the principle of liberal civil rights, but also economic rights to basic welfare provision. Smith (1997) notes that social justice is about the type of social arrangements that can be defended as being equitable. The central issue in any theory of justice, according to Smith, is the defensibility of unequal relations between people. Different approaches to social justice can be seen as statements about which sorts of differences should make a difference.

According to Bellamy (1998) societies differ with respect to their conceptions of what is just and what is unjust. Through contact with other societies, people come to realize that social arrangements are not a natural phenomena but a human creation. What human beings created, human beings can also change (Smith, 1997). One approach is to say that people who are alike in all relevant respects deserve the same thing (Smith, 1997 and Wenz, 1988). Different treatment should be justified by reference to relevant differences.

The British idealists have developed this idea, but their view is a fairly conservative one. For them, social justice is a theory, which is concerned with equality of opportunities, but which “sanctions inequality of outcomes” (Boucher, 1998: 83). In this view, the good is defined as self-realization and the role of the state is to maximize the conditions in which each citizen can develop or fulfil his or her potential and talents. Thus the British idealists argue that justice is done when people get what they deserve. The inequalities in distribution of social goods are justified if they are the result of merit, i.e. if they are deserved. This however is in contravention to Rawls’ difference principle, which attempts

to take account of other undeserved inequalities. For Rawls, inequalities in natural talents and capabilities are equally undeserved (Boucher, 1998).

For purposes of this thesis, Smith's more radical argument is useful. Smith (1997) argues that in modern industrial societies, justice requires a social commitment to meeting the basic needs of all persons. The argument presented by Smith is for the need to advance the principle of social justice as equalization, i.e. a process of returning to a state of human equality with respect to some relevant conception of living standards. This argues mainly for the recognition that human beings are basically the same. Smith (1997) has noted that besides some obvious differences such as taste, skin pigmentation, etc human beings have many things in common. Specific sets of needs exist as universal features of being human. These include basic needs to survive, to be healthy, to avoid harm, to be happy and to function properly (Smith, 1997).

While there are context-dependent requirements for human wellbeing, Smith identifies requirements that are context-independent. This is because these universal needs are physiological, psychological and social. These are the needs for food, shelter, the desire to be cared for and the need for security. It is a fact therefore that human welfare requires enjoyment of these "historically constant, culturally invariant and universal needs" created by human nature (Smith, 1997). Smith refers to the drive to satisfy these needs as "primary values", whereas the satisfaction of needs that vary with traditions and people's conception of a good life are referred to as "secondary values" (Smith, 1997). It is the first category of needs (context-independent needs) that are mainly considered in Chapter Six of this thesis.

A final point to make is that the kind of situations in which considerations of justice arise are often characterised, as Wenz (1988) has noted, by scarcity. Various social groups exercise power over the distribution of what is scarce and limited. According to Wenz, in these situations arrangements have to be made or institutions generated to effect a just distribution of what is scarce. Inherent in this argument is the belief that it is the duty of government to redistribute the wealth of society. This is necessary so that each person enjoys at least the right to a basic minimum level of the provision of a good or service. Wenz (1998) argues that only the state can ever be the agent of distribution. It alone has

the immense power needed to compel people with wealth to hand some of it or perhaps all of it, over to those without.

The debate on social justice in the preceding paragraphs is more anthropocentric. While the debate on environmental justice includes some elements of ecocentric world-views, the debate however is still dominated by anthropocentric world-views. The following subsection provides a discussion about environmental justice and dams with a particular focus on South Africa.

### **3.2.3 Environmental justice, large dams and the South African context**

The impacts of large dams mean that large dam construction is increasingly seen as an environmental justice issue (Harvey, 1996). Water resource development programmes that provide energy for growing industries, irrigation for agricultural development, water storage for domestic water supply, are necessary. These programs improve many people's lives and develop both the national and local economies (Veltrop, 1990: 6). These arguments seem to indicate that such programs are land uses for which there is an agreed level of social support. However, as noted in Chapter Two, the impacts of large dam projects on certain groups reduces the environmental and social well being of people in physical proximity to dams, especially people whose land is being flooded (Low and Gleeson, 1998). There are also adverse effects on the biophysical environment.

Pearce (1999) has noted that displacement often affects the very poor, thereby providing a strong equity argument for special attention. The often-cited argument that dams are for the "greater good for the greater numbers" violates the principles of justice in that the benefits to the general public are usually achieved at the expense of the quality of life of the few individuals in society (Pearce, 1999). Many argue that the inadequately mitigated displacements and resettlements due to large dams are indicators of an unjust social system. It is therefore not surprising that the history of large dams has evolved with conflicts between various stakeholders. This conflict has become more prominent as people continue to react against the disastrous effects of large dams (see section 2.5 in the previous chapter).

It is now widely recognized that dams are not a perfect solution to the development needs of countries. In other words the social and environmental injustices are increasingly being acknowledged, the issues of compensation and consultation discussed. There is however still great confusion on how to redress the injustices. This among other things is due to the politics that surrounds the notion of justice. In South Africa in particular, in its transition to democracy since 1994, there is a growing awareness of environmental injustices committed in the past. The question is what should be done about them in the present, who should be held responsible, and whether there is the political will to redress these injustices.

In her work on social justice, Nancy Fraser speaks of “misrecognition” as a cause of injustice. By this she means that certain groups are consistently regarded in a particular way. Interaction is regulated by an institutionalised pattern of cultural values that constitutes some categories of social actors as normative and others as deficient or inferior (Fraser, 2000: 114). This applies to the impacts of dams and other such projects because the displaced people did not have and often still do not have political power to influence decisions. In the case of the “old” South Africa, this was certainly true. Many examples of socially unjust practices were evident. This includes the well-known policy of apartheid and exclusion of mainly black South Africans from the decision-making processes.

The current democracy however discredits socially unjust practices. A well-entrenched constitution and laws are in place to protect against any violation of human rights. This is a good start to redress the past injustices. For the subordinated groups however, having these principles implemented to assist them improve their quality of life is easier said than done. When faced with a particular condition of social injustice, the question is how do resource poor individuals actually demand that justice be done? In other words, such principles as laid down in the South African Constitution are not always easy to implement. It therefore is the case that these individuals continue to be “misrecognized” and further deprived of access to certain rights.

From the discussion on environmental and social justice, certain specific issues arise relating to large dams. These include the issues of:

- Compensation
- Social support in the resettlement process

- Treatment of people as citizens
- Proper measurement of displacement impacts
- Understanding of long-term effects of displacement
- Understanding of constraints to / difficulties with adaptation and what can facilitate adaptation

All these issues need to be understood in detail in a particular context. The framework of environmental justice is broad and does not provide specific tools for understanding processes and measuring impacts. The following section provides a description of models and conceptual tools that can be used in a particular case such as the one considered in this thesis. These models and tools in conjunction with the broader theories of social and environmental justice are used in Chapters Six and Seven to explain and describe the experiences of families displaced by Inanda dam.

### **3.3 MEASURING THE SOCIO-ECONOMIC EFFECTS OF DAMS**

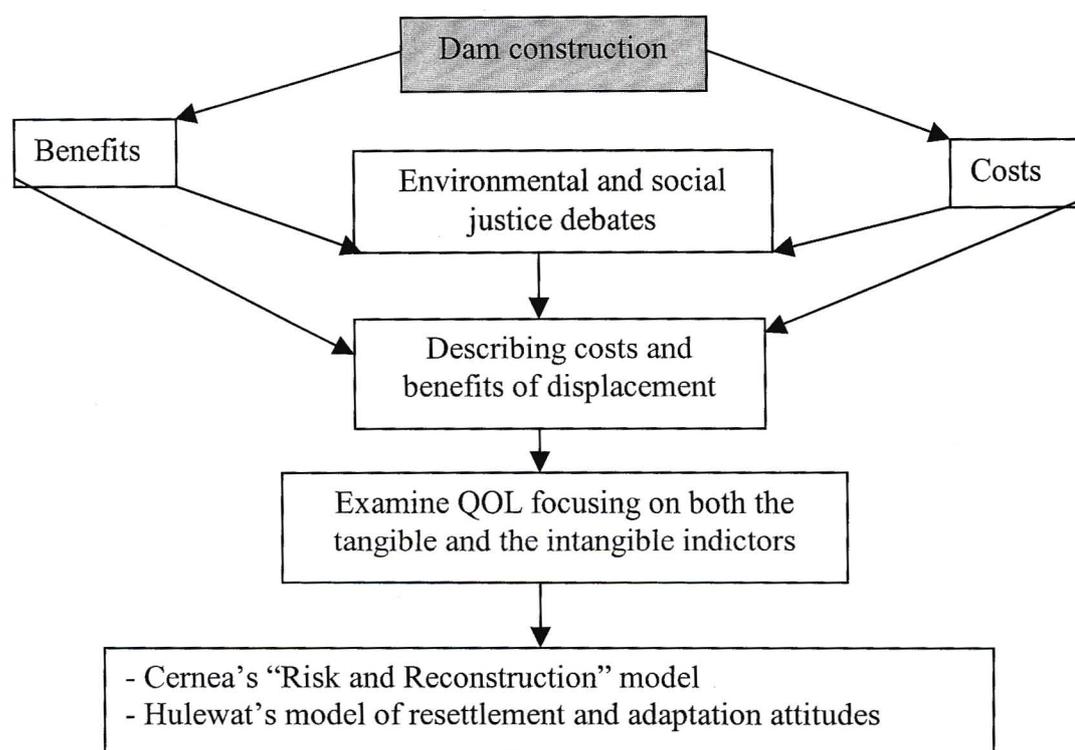
This section introduces the reader to a set of tools and models that are useful in attempting to measure the effects of displacement. These tools and models are used in the data analysis chapters to assess the dam's impact on lives and livelihoods in the case of families displaced by the Inanda dam.

Various approaches exist to explain the impact of displacement and resettlement. The first question is how to measure the Quality of Life (QOL) of the displaced families, before and after relocation. Literature on how to measure QOL is reviewed below. These readings suggest that it was necessary to seek to understand both objective and subjective phenomena in order to measure the impact the dam had on people's lives and livelihoods.

There are specific models for understanding and predicting what happens to resettled populations. The second conceptual tool considered in this section is Cernea's "Risk and reconstruction model for resettling displaced populations". This model is specifically aimed at predicting and assessing impacts of the removal of people due to dam construction. It provides this analysis in order to help planners and others support settlers in their new areas of residence. The concepts in this model were very useful in structuring the data analysis, in particular Chapter Six.

The third and fourth conceptual tools considered below, assisted the researcher in understanding the processes of adaptation. Hulewat's (1996) simple model predicts the various stages of resettlement and this made it possible to locate the stage the Inanda dam families have currently reached. In terms of adaptation, understanding vulnerability and resilience is also an important concern. Hulewat analyses ways of coping and categorises the way in which people respond to the stress of resettlement. Other scholars such as Smith (2001) and Sluzki (1986) have useful comments on how to understand vulnerability and resilience, and how these affect the process of individual and group adaptation.

It should be noted that these tools and models have been used in conjunction with the broad theoretical framework of justice discussed in the preceding section. The following is a schematic representation of the relationship between the various theoretical ideas discussed in this chapter.



**Figure 3.1. The relationship between the various theoretical ideas**

### 3.3.1 Measuring Quality of life

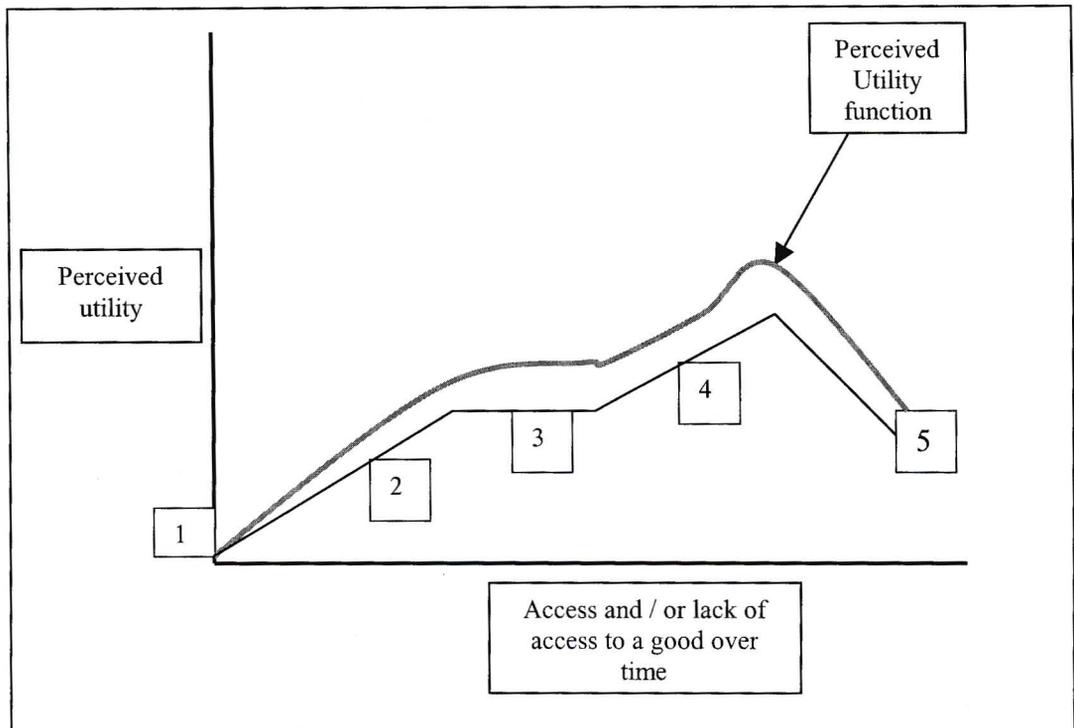
Solomon et al describe QOL as a concept that covers all aspects of living as individuals experience it (Solomon et al, 1980). It includes both objective and subjective aspects, i.e. the material satisfaction of vital needs and aspects of life such as personal development, self-realization etc (Solomon et al, 1980). The common goal across all human kind is to achieve happiness. This is the state of mind, which Milbrath (1978) concluded is the only defensible definition of quality of life. Quality of life may simply mean remaining alive and healthy, having an acceptable place to live, working, enjoying leisure time, receiving an education that prepares one to cope with life's problems. The goods and services that we buy do determine our quality of life. These goods and services however cannot solely measure our quality of life. Quality of life depends on how we like our life, on the extent to which our life satisfies us and makes us feel that it is worth living (Scheer, 1980). In other words, both objective and subjective measures of life quality are necessary.

Hankiss (1983:21) used the concept “perceived quality of life” to describe individuals’ state of mind. Perceived quality of life is a dynamic process, i.e. a continuously evolving and changing state of mind. It should not be seen as a static state of happiness, but rather as a process of development. The difficult question however is whether it is the presence and abundance or the absence and shortage of a particular good or service, which increases its subjective value in people’s minds. For example, do people appreciate proper housing, land for cultivation or common property resources more when they have access to and enjoy these goods or do they derive value to these more when a particular activity such as building a dam denies them access? Hankiss (1983) provides five stages as historical evidence of how perceived quality of life evolves. The following provides a list of these stages.

1. While there is no possibility at all to obtain a particular good or service, the value conveyed by it (its perceived usefulness) will be very low.
2. However, when the opportunity presents itself, its perceived utility is likely to rise.
3. In the moment when it is secured, its perceived utility may culminate.
4. However, if immediately before or after its obtainment one is deprived of it, its perceived utility may rise even higher.

5. After a while, if it becomes once more unattainable, its perceived utility is likely to decline again (Hankiss, 1983:22).

This is pictured in diagram form below which shows all stages as described on the preceding list. The thick line in the figure is a perceived utility curve depicting changes in perceptions, which occur as a result of changes in access to goods or services. Numbers 1 to 5 correspond to the numbers on the list of stages outlined above.



**Figure 3.2. The relationship between perceived usefulness of a good/service and access or lack of access to it over time**

The literature draws one's attention to the need to understand both objective and subjective phenomena in assessing quality of life. The discussion reveals that tangible objects do play a vital role in human societies. This suggests the need for particular attention to be placed on certain tangible objects when one attempts to explain the impacts of projects such as dams. The following subsection explains the model, which has been used to identify some of the tangible and intangible phenomena used to describe the impact of the Inanda dam.

### 3.3.2 The “Risk and Reconstruction” model

Cernea’s “ risk and reconstruction model for resettling the displaced populations” predicts eight major impoverishment risks. These are major risks associated with inadequately mitigated or unmitigated involuntary resettlement. They are landlessness, joblessness, social disarticulation, homelessness, marginalisation, increased morbidity and mortality, food insecurity and loss of access to common property (Cernea, 1997: 1572-1575). Table 3.1 below provides a brief explanation of each of these concepts.

**Table 3.1.Cernea’s impoverishment risks and explanation**

Concept	Explanation
Landlessness	Can mean having no land at all. It can also mean having land, but not sufficient to satisfy the needs of cultivation, building extra shelters etc.
Homelessness	Can mean having no shelter at all. It can also mean having a shelter of very low quality compared to the shelter previously owned before displacement occurred.
Joblessness	Loss of access to opportunities for generating both cash and in-kind incomes
Food insecurity	A drop in food availability as a result of forced uprooting and loss of access to cash and in-kind incomes
Loss of access to common property	Common property assets are non-individual resources such as natural forests, river and spring water, grazing pastures, burial sites, etc.
Increased morbidity and mortality	Morbidity in this context means physical exposure to e.g. parasitic and water borne diseases such as schistosomiasis, cholera and dysentery. It also includes exposure to psychological diseases such as social stress, trauma, insecurity, etc. These may increase the rate of death.
Social disarticulation	This means the tearing apart of the existing social fabric as the group of people is separated and displaced to various areas.
Marginalisation	This means reduction in economic and social power. Middle-income farm householders e.g. do not become landless, but they become small landowners. Resettlers’ status drops and they lose confidence in society and self.

In this study, Cernea's model has been used and compared with predictions of the impacts of the Inanda Dam, which Scott and Diab (1989) made prior to its completion in the late 1980s. As will be clear from the above table, the risks can be measured objectively but also relate to the subjective phenomena of feelings, attitudes, perceptions, etc. In other words, the risks predicted in Cernea's model are about quality of life and relate very well to the measurement of basic needs discussed in the previous subsection.

According to Cernea (1997) resettlers may experience some or all of these impoverishment risks. This would depend on the sector and circumstances in which resettlement occurs. The predicted risks serve as a warning to decision makers. One major strength of the model however is that it does not only predict risks, but it also provides possible solutions to counteract such risks. It suggests reconstructive measures to prevent impoverishment. Such measures according to this model should be taken prior to the commencement of the project, i.e. in the planning stage. Below is a summary of the reconstructive measures suggested in the model.

- Counteract landlessness and joblessness by settling displaced people on cultivable lands or in income-generating employment.
- Improve shelter conditions through providing more square footage per capita, better housing materials, connection to services such as water, electricity, safer sanitation facilities, space for house gardens, etc.
- Improve health care and nutrition levels. These however will depend in the long term on progress in resettler's economic recovery.
- Reconstruct the community by protecting the group structures, i.e. the informal and formal institutions from breaking apart.

Cernea (1997) warns that for effective implementation of these reconstructive initiatives to be realized, a top down approach should be avoided. The initiatives should involve all the stakeholders, i.e. dam agents such as governments, project donors, local people and as well as people in the host areas.

Cernea's model can be used in various ways. It can be used as a predictive, planning, diagnostic and research tool. In this study more focus was placed on its capability as a research tool. Cernea explains these capabilities as follows:

- The model can be used for “operational research” whereby issues can be analysed *in situ*, i.e. how risks identified in the generalized model manifest themselves in the given project's context. This means finding out who will be affected, whether other risks are present, how such risks can be prevented or reduced.
- It can be used beyond the preparation stage, i.e. during “implementation” to monitor progress. The undesired and unanticipated effects can be identified and feedback from the affected people elicited.
- The model can also be used in the “ex-post evaluation” research for comparing actual results achieved in reconstruction with predicted risks and re-development package.

The model in this study served as a conceptual tool and guided the field collection of quantitative and qualitative empirical data by directing focus on certain variables. The objectives of the study were developed using the model to identify the impoverishment risks and effects in the case study. This is the core of Chapter Six. The discussion on reconstruction and adaptation in Chapter Seven is also influenced by this model, as are the recommendations at the end of the thesis.

According to Cernea (1997) the impact of dam construction can become clearer many years after the project is completed. In evaluating the impact therefore, one method is to examine history and determine how families have evolved over time. The following subsection provides a discussion of a second model, which explains different stages of resettlement and methods of adapting in resettlement areas.

### **3.3.3 Stages of resettlement**

Hulewat identified five stages of resettlement. These are pre-immigration or preparatory, the actual migration, arrival in the new home/place, decompensation and the

transgenerational stages (Hulewat 1996: 130). These apply to resettlement in general, however some of the characteristics of these stages may be evident in dam-induced resettlements.

The pre-immigration is the initial stage when the issues are “burning”. The decision to leave is struggled with and made. Hulewat (1996) has stressed the need to understand how a particular family made the decision to leave its original home/place. This would be necessary to enhance understanding as to how a particular family has adjusted to resettlement. In the ‘arrival at a new place’ stage, households are often not aware of the cumulative effects of the stress they have been under. The dominant mode is anxiety and optimism. However anxious depression may still occur as a result of attempting to adapt to a new environment. In the migration and arrival stages, Hulewat has noted that experience may vary from country to country or from place to place depending on local socio-economic circumstances (Hulewat, 1996).

The period where resettled populations will begin to realize and experience the loss they have suffered is the de-compensation stage. However, the families may try to balance the past and the present. The transgenerational stage is the final stage of resettlement. In this stage, unresolved conflicts from the immigration experience are passed onto succeeding generations. Sometimes the conflict raised by the migration transition can become extended for years only to emerge when the second generation raised in the place of adoption picks up what the first generation has avoided and extend conflict which will carry on between generations (Hulewat, 1996).

### **3.3.4 Resilience and attitudes to adaptation**

Finally, it is necessary to discuss the concepts of vulnerability and resilience. In dealing with the issues of loss and dependence, resettled populations may emerge with different characteristics. Dams affect the already vulnerable members of society. The degree of vulnerability may however not be the same for all households as some may have more capabilities to cope with a disaster. The vulnerable group can be broken down into two main groups. There are those who are “most vulnerable” and those who tend to be more “resilient”. Whether a household is more vulnerable or more resilient, these conditions determine how that particular household adapts in the new environment. This therefore

means that, as a strategy of measuring displacement impacts, the task of the researcher is to identify these characteristics and determine which families fall under which category. This requires the understanding of the historical background of these families.

According to Oelofse (2000), the more vulnerable groups are those that find it hardest to reconstruct their livelihoods following a disaster. This could be due to the effect of the internal and external forces acting on them. In contrast the more resilient groups are the ones who can withstand a major change. What makes the future of the latter more certain even in times of external stress and shocks is because they have the asset base to draw upon (Smith, 2001). Families may adopt various strategies to cope with a disaster. Sluzki (1986) emphasises the importance and effectiveness of group coping. This thesis argues that where victims work together and cope as a group, members gain a sense of control even though they are quite powerless to influence the event itself.

Based on research from different resettlement experiences Hulewat (1996) has identified three attitudes that different groups of resettled people tend to develop in their attempts to adapt. There are those who develop the attitudes of:

- “Help me get started”
- “Take care of me ”
- “You must do it my way”

The “help me get started” attitude according to Hulewat (1996) emerges among those individual households who are truly eager to gain control of their lives and move ahead to become independent. In the resettlement literature this has been regarded as a desirable stance and attitude by resettlers. Prolonged dependence on either community support or welfare retards the resettlement process and does not promote growth and therefore inhibits resettled people in getting on with their lives (Hulewat, 1996). The “take care of me group” insists on dependence. This group according to Hulewat insists on demanding restitution in an entitled way (Hulewat, 1996). This has been associated with those families who increasingly idealize, mourn what has been left behind and as such make it difficult for themselves to adapt (Sluzki, 1986). According to Sluzki (1986) families trapped in this attitude express accumulated stress, tension, pain and conflict. As time goes on however, this group learns from experience that prolonged dependence inhibits them from getting on

with their lives. The third group that has been identified in the literature is “you must do it my way”. This has been regarded as the smallest group and is the most troublesome as it seeks to manipulate the whole process and yet continues to insist on dependence.

The findings and recommendations of the World Commission on Dams (WCD) provide a framework for decision-making on dams. Some of the recommendations are as follows. It must be ensured that:

- Displaced and project-affected peoples' livelihoods are improved;
- Past inequities and injustices are resolved, and project-affected people transformed into beneficiaries;
- A regular monitoring and periodic review be undertaken.

The question however is, to what extent are such recommendations going to be implemented and assist different populations falling mainly under the “most vulnerable” group? To what extent are past inequities and injustices going to be resolved and resettled populations transformed into beneficiaries?

### **3.4 CONCLUSION**

This chapter discussed the broader theories of justice. It reviewed the literature on the theories of environmental and social justice. Because of the broader nature of these theories other conceptual tools and models on resettlement and adaptation supplemented these. These specific tools and models have played a major role in shaping the methodology and data analysis chapters of this thesis. The next chapter provides a background to the study area, Inanda Dam and the resettled communities.

## CHAPTER FOUR

### BACKGROUND TO THE STUDY

#### 4.1 INTRODUCTION

While Chapters Two and Three reviewed the literature on large dams and provided a theoretical framework and models for evaluating their social impacts, this chapter goes specifically to the Inanda dam case study. It provides the historical background of the dam as well as a brief description of the resettlement areas. Three topics are examined. First, the spatial location of the dam and the relocation areas are described. A brief discussion of the rationale for building the Inanda dam is included here. Secondly, the manner in which the project was planned and implemented is described. This section provides a discussion on how such issues as displacement and resettlement were handled. The last section is a brief description of the main characteristics of the study areas.

#### 4.2 INANDA DAM: LOCATION AND RATIONALE

Inanda dam is situated in the KwaZulu-Natal province of South Africa. It was constructed in the Mngeni River in the Valley of a Thousand Hills, about 17 km northwest of Pinetown. This area was formerly part of KwaZulu, one of South Africa's ten so-called "Bantustans" from the Apartheid era. It is a peri-urban area in that it is in close proximity to the city of Durban, the industrial areas of Phoenix and the small towns of Hillcrest and Waterfall (see Figure 4.1).

As is evident from the 1979 1:50 000 topographical map of the area, this was a highly populated region. Tribal authorities under communal forms of land tenure held the area. Four traditional leaders held this land on behalf of their people. These were: Inkosi Ngcobo of the AmaNyuswa tribe, Inkosi Gwala of the Amaphephetho tribe, Inkosi Bhengu of the AmaNgcolosi tribe and Inkosi Ngcobo of the AmaQadi tribe. The ownership of this Amakhosi land was vested in the South African Native Trust, later known as SADT (Khanyile, 1998). In 1977, the land was transferred to the administration of the KwaZulu government. According to Khanyile (1998) the dam flooded an estimated total area of 1 623 hectares of land and affected 1 356 families.

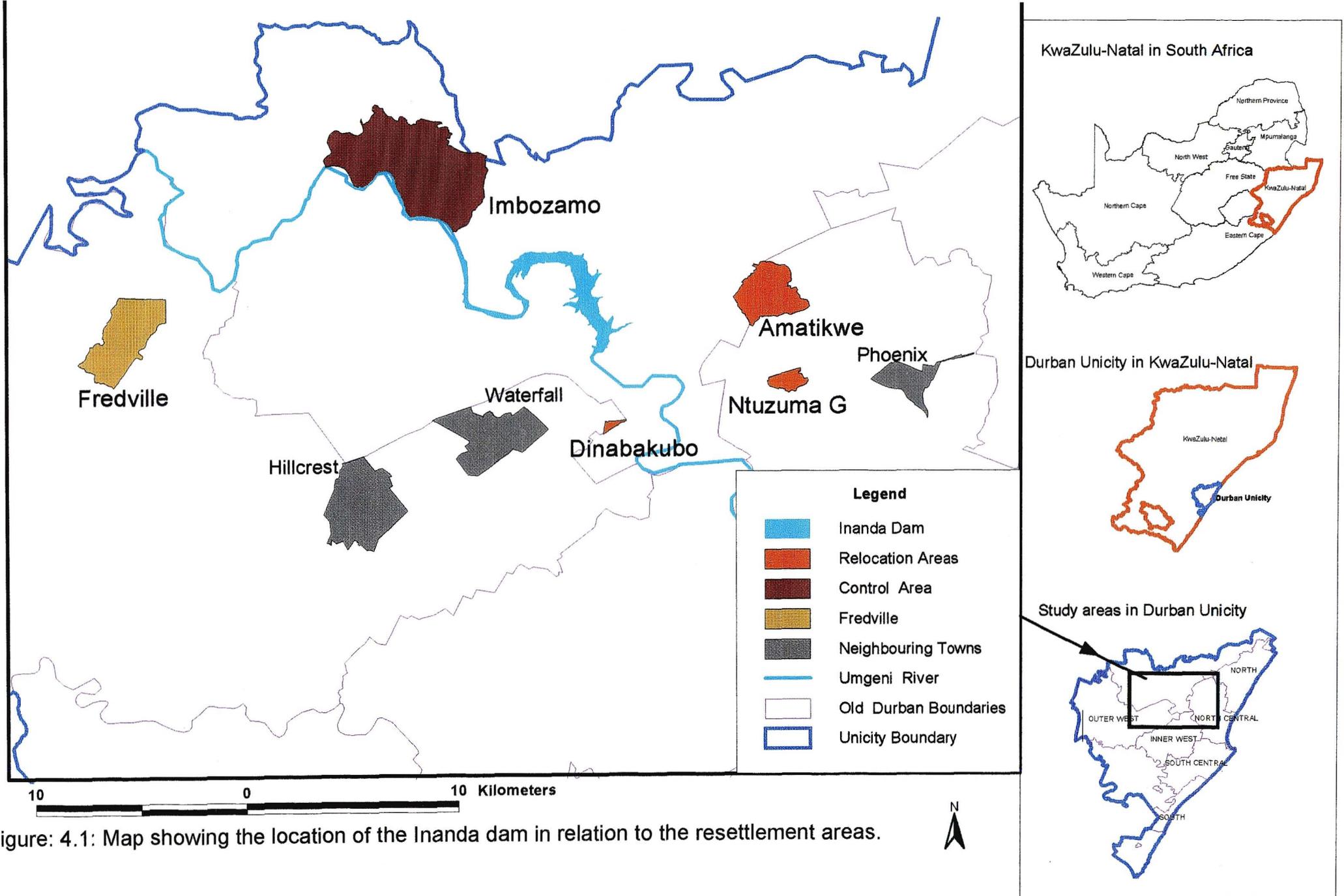


Figure: 4.1: Map showing the location of the Inanda dam in relation to the resettlement areas.

According to the first supplementary report on Inanda dam by the then Director-General of the Department of Water Affairs, Mr J.G Du Plessis, Inanda dam was constructed with two main goals (Director-General: Water Affairs, 1985-1986). First it was built to regulate the flow of water in the lower Mngeni River. The dam was also constructed to ensure a dependable supply of water for the Umgeni Water Board (the main water supplier in the region). The Board supplied water to Pietermaritzburg, Greater Durban and North and South Coasts. It was also announced that the dam was required to supply the Kwa-Zulu area with water in the near future. The proposed project was a further component in the Mngeni River Government Water Scheme. This scheme already consisted of the Midmar and Albert Falls Dams (Director-General: Water Affairs, 1985-1986).

### **4.3 PROJECT PLANNING AND IMPLEMENTATION**

The decision to build the dam was made in the late 1970s. Its capacity was based on the projected water consumption of the Durban and Pietermaritzburg Metropolitan areas in relation to the existing resources at that time. The dam has a surface area (when full) of 14.63 km<sup>2</sup> and a total capacity of 251.746x10<sup>6</sup> m<sup>3</sup> (Umgeni Water, 2000).

In 1981, a White Paper (WP1 81) was tabled in Parliament by the Department of Water Affairs, proposing the building of Inanda Dam in terms of the Water Act, 1956. The decision to build the dam was taken at national level by the then Minister of Environmental Affairs who via legislation had wide powers with regards to resource development (Director-General: Water Affairs, 1985-1986). According to this report, dam construction was originally planned to commence in 1981, but due to delays as a result of problems associated with the displacement and relocation of the population living in the dam area, construction commenced in 1984.

It appears from contemporary studies (e.g. Scott and Diab, 1989), as well as from interviews that not only did the government of KwaZulu oppose the relocation of the local people but also the local tribes themselves were opposed to both the building of the dam as well as displacement. This conflict it has been argued was as a result of the lack of initial consultation with both the governing authorities of KwaZulu and the local people who were going to be affected by the dam (Scott and Diab, 1989; Khanyile, 1998; Mr. Meyiwa, pers. comm, 08 January 2001). Studies indicate that this conflict continued since before

knowledge about the dam was made public up until such time when actual displacement started.

According to the 1985-86 report, the total estimated cost of the dam using March 1985 prices was R89 million (Director-General: Water Affairs, 1985-1986). Additional costs, which were mainly expenditure for the relocation of people living in the dam basin and storage rights on land belonging to the South African Development Trust (SADT), were estimated at R10.5 Million. Of this amount R3.5 million was allocated for removal and re-establishment, while the rest was allocated for the storage rights on SADT land.

#### **4.3.1 Displacement and resettlement**

The relocation areas contain households whose movement from the dam area was triggered at various stages of the dam project. The initial group left the area voluntarily due to rumours about the project. In this category some households left as early as the 1970s. The second group consists of families who were forced to move by the 1987 floods as a result of the Inanda dam overflowing and destroying their houses. This movement of this group was not intended. Families were forced to relocate to temporary sites before they were formally transported to permanent sites, which they now inhabit. The last group comprises of families who were formally transported to the relocation sites after the dam had been closed and water began flooding moving backward reaching their homes. Unlike those who were forced by 1987 floods, this movement was anticipated.

There is a lack of reliable statistics on the exact number of families that were displaced. While the former Department of Water Affairs provided an estimate of about 3500 houses that were going to be negatively affected, survey reports provided different figures, for example 12 000-14 000 people or 25 000 people (Scott and Diab, 1989). Khanyile (1998) gives a different figure of 1 356 families.

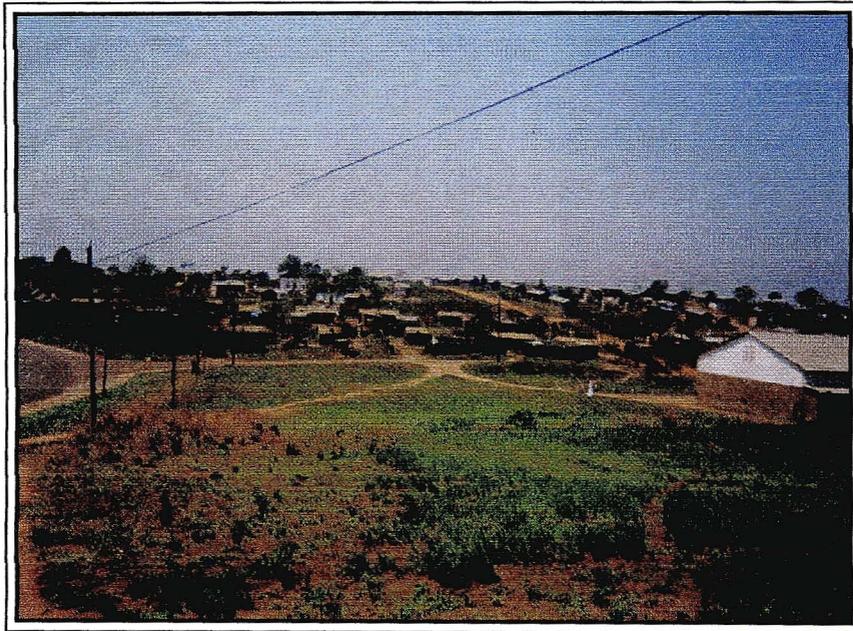
With respect to resettlement it appears that households were presented with various options. One option was to relocate to urban settlements and this included a choice to go to such areas as Ntuzuma or Inanda Newtown. Others chose to be resettled elsewhere in their tribal areas. This included resettlement to the upper areas where the dam water could not reach. Some were given a choice to relocate to compensatory land purchased by the state.

This is discussed in more detail in Chapter Seven. The last section of the current chapter provides a brief description of the resettlement areas chosen for investigation, and the control area used in this study.

#### 4.4 THE STUDY AREAS

##### 4.4.1 Study area 1: Kwa-Dinabakubo community

This community consists of the former members of the Ngcolosi tribe. These people were relocated to an area situated between Waterfall suburb and Molweni, about 4km south of the dam wall within the boundaries of the “old” Durban Metro Outer West Council (see Figure 4.1).



**Plate 4.1: Photograph showing a portion of Dinabakubo settlement**

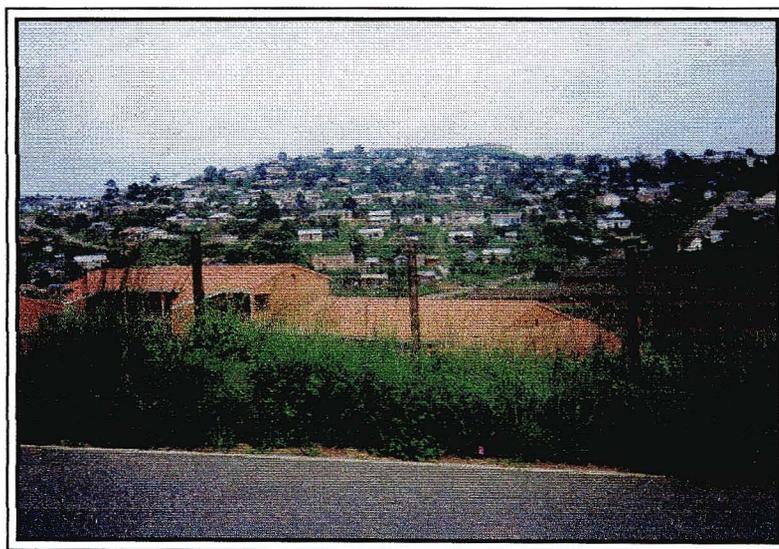
Dinabakubo was formally established in 1988 and included in the area controlled by the then Department of Development Aid (DDA). In the early 1990s, as a result of the disbanding of DDA and abolishment of South African Development Trust (SADT), the functions of these bodies were transferred variously to the Natal Provincial Administration (NPA), the then Department of Regional and Land Affairs and the then Government of KwaZulu (Khanyile, 1998). However there appears to be some disagreements about the authority structure at Dinabakubo. According to Khanyile (1998) this area falls under the control of Kwa-Zulu Natal Provincial Administration (KZNPA). This is either directly or through the power of attorney (Khanyile, 1998 and Mr. Meyiwa, pers. comm., 08 January

2001). However Dinabakubo was placed under the jurisdiction of Inkosi Bhengu of the Ngcolosi Tribe on 10 August 1992 (Khanyile, 1998).

It is against this background that the relationship between the construction of Inanda Dam and the long-term quality of life of the Dinabakubo community was evaluated.

#### **4.4.2 Study area 2: Ntuzuma G**

Ntuzuma G is located about 8km south-east of the Inanda dam wall also within the boundaries of the Old Durban Metro North Local Council. The area forms part of the so-called “Released Area 33”, which at the time of relocation was one of the major areas of informal settlement in Durban. It is an urban settlement with an estimated population in 1996 of 6556 people. This is the overall population, which thus includes dam-displaced families as well as families from somewhere else who came to the area for various purposes. According to the 1996 census, about 1362 households occupy this area.



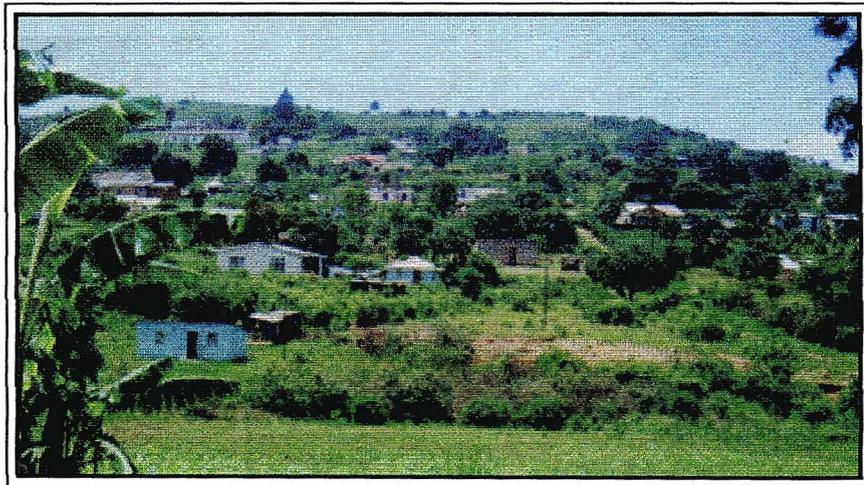
**Plate 4.2: Photograph showing a portion of Ntuzuma G settlement**

Relocation to this area was involuntary. Unlike resettlers in Dinabakubo area, who are all members of the Ngcolosi tribe, Ntuzuma G comprises of families from the Ngcolosi, Mphephetho and Qadi tribal areas. However the majority of relocatees in this area are former members of Qadi tribe. These are relocatees who were given “Released Area 33” (Groenburg farm) on which to settle (Mr.Gwala, pers.comm, 19 December 2000). However, because of conflict with local people who already occupied this area, the

displaced families however found themselves relocating further to Ntuzuma G. In other words these people were removed twice.

#### 4.4.3 Study area 3: Amatikwe

Amatikwe is located about 8 km east of the Inanda dam wall. It is a semi-rural community, which in the 1980s was still classified as an area of “controlled squatting” (Scott and Diab, 1989). In 1996, the community had a total population of 20107 with 441 households.



**Plate 4.3: Photograph showing a portion of Amatikwe settlement**

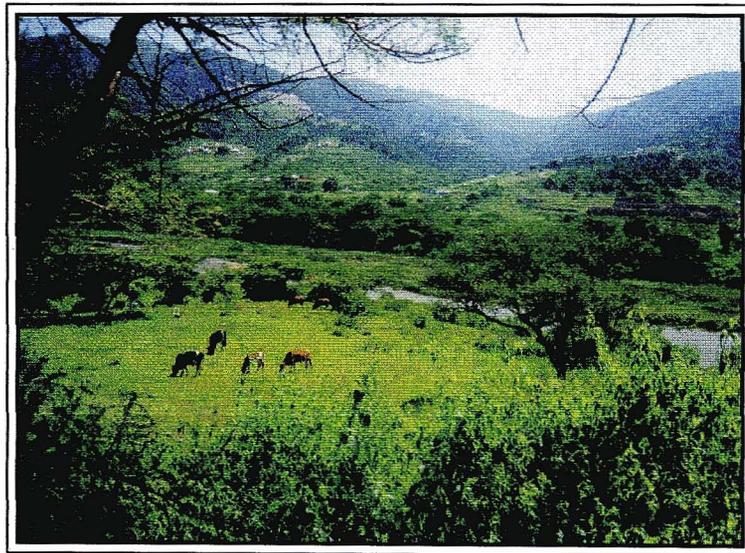
Just like families in Ntuzuma G, relocated families found in this area are former members of the Ngcolosi, Maphephetho and Qadi tribes. The families that were interviewed indicated that their movement to this area was triggered by rumours that the dam would be built thus they left their original areas voluntarily in the late 1970s and the early 1980s to the upper areas away from the dam. Here again, there was more than one move. Violence in the upper tribal areas triggered caused further relocation to Amatikwe.

#### 4.4.4 Fredville

Fredville is the relocation site for the former members of the Amaphephetho tribe. It was a released area in the former KwaZulu, thus under tribal tenure. It is located approximately 19,5 km west of Inanda dam wall in close proximity to the Cato Ridge industrial area. While this area was not selected as a study area, it was visited and is briefly mentioned in Chapters Six and Seven.

#### 4.4.5 Control study area: Imbozamo

Imbozamo is a rural community located approximately 8.5km upstream of Inanda dam. It is an area under the traditional leadership of Inkosi Gwala of the Amaphephetho tribe. Unlike the four study areas described above, Imbozamo is not a relocation site. People have not been removed. It was selected as a control area against which to assess the three relocation areas (see Chapter Five). In 1996, this area had a population of 4 917 people in 671 families (Census, 1996). While all resettlement areas are closer to the major towns, Imbozamo is the furthest away from urban settlement. It is accessible by taxi and bus but takes 45 to 60 minutes from Durban Central point to get there.



**Plate 4.4: Photograph showing part of Imbozamo area**

#### 4.5 CONCLUSION

This chapter has provided the reader with a brief historical background to the Inanda dam. The chapter explained why the dam was initiated. It also discussed the process of displacement and resettlement. The issues discussed in this chapter are important in that they provided a foundation on which to analyse and interpret the findings of the study. The planning and implementation process in the case of Inanda dam clearly disadvantaged the communities who were removed. In the data analysis Chapters Six and Seven, the inadequacies of these planning and implementation process are linked to the long-term experiences of the displaced families. The following chapter explains how the researcher approached and conducted the study.

## CHAPTER FIVE

### METHODOLOGY

#### 5.1 INTRODUCTION

The research design chosen for this project is a qualitative one. While the content of a quantitative research design may differ from that of a qualitative study, both share some commonalities. The design includes problem identification, formulation of a research question/ hypothesis, identification of a conceptual framework and philosophy to serve as a basis for problem investigation, and the selection of an appropriate method of data collection and analysis (Shaw and Wheeler, 1994). Graham (1997) has noted that the objectives researchers set, do influence the way they design their research. In other words what researchers are trying to accomplish influences their research design.

According to Shaw and Wheeler (1994) the major stages of research design are:

- Defining the problem and type of information required;
- Selecting the method of data collection and determining whether secondary or primary data or both are required;
- Deciding whether to use the total population or a sample, if the latter, selecting the appropriate sampling method;
- Determining the appropriate means of analysing the data.

This study chose an in-depth approach in which the quality of life of a small number of resettled households was examined. As explained in Chapter Three, quality of life (QOL) is both a subjective and objective phenomenon. Simple quantitative measures were thus used to supplement the qualitative research design.

The aim of this chapter is to provide a description of the research design adopted in this study. The first section clarifies the philosophical position within which knowledge was constructed. The researcher explains how the problem was identified and the research question formulated. Second, a discussion of the type of data collected and methods of data collection the researcher adopted is provided. This includes a critical discussion of the

sampling method. Lastly, the manner in which data were analysed and presented is described.

## **5.2 RESEARCH PHILOSOPHY AND APPROACH TO THE STUDY**

This study was conceived of as mainly qualitative research. The philosophy of qualitative research is based on the understanding that the observer (the researcher) and the observed (i.e. the researched) are closely related and inseparable (Graham, 1997; Robinson, 1998 and Palys, 1997). In other words, the values, beliefs and attitudes of the researcher are seen as playing a role in influencing and shaping the research process. The researcher was not regarded as a neutral, value free, totally rational person standing out there researching the phenomenon.

Robinson argues that qualitative research requires one to engage in various forms of interaction and participation with individuals and groups under scrutiny (Robinson, 1998). Qualitative research recognizes the value of those phenomena, which cannot be seen. That is, it embraces the meanings inherent in people's attitudes, beliefs and opinions as providing valuable knowledge.

Various approaches to research exist. Palys (1997) has identified the two major ones, deductive and inductive. While deductive approaches emphasise the role of theory in generating research ideas, inductivists argue that research ideas and theories should emerge from one's interacting with and observation of the phenomenon itself. For deductivists, theory helps one make sense of the world. In other words, theories are seen as playing a major role in guiding research. Good theories are seen as useful devices because they help co-ordinate research by providing a research focus. In other words theories are seen as implying what to research.

Inductive approaches in contrast stress the importance of starting where one is. For example, those researchers who have undergone particular life experiences may bring special insights to their research because of having experienced a phenomenon from the inside. With the inductive approach, a researcher develops research ideas from natural curiosity about the how, when or why of a phenomenon. Both approaches however have their weaknesses.

In the case of the deductive approaches, a theory has to be good to be useful, since if it is too narrow (e.g. focusing on certain aspects of the problem and leaving out some) it is likely to be misleading (Palys, 1997). With an inductive approach, it has been argued that one has to be careful not to be so embedded in a situation of interest that one is unable to rise above it.

From the literature, it appears that most studies of the social impacts of large dams take place soon after the construction of the dam, and thus there is a need for studies conducted some years later. These observations helped the researcher develop the focus of this research.

Also, Cernea's model of "Risk and Reconstruction for Resettling Displaced Populations" discussed in Chapter Three was used as a theoretical framework. Cernea suggests that there is a positive relationship between poor measures to counteract social hazards, and long-term impoverishment of populations displaced by infrastructural development projects such as dams and others (Cernea, 1997). This model also contributed to developing the aim and objectives of this research. In the specific case of the Inanda dam, past studies indicated that the issue of compensation had been poorly handled. Cernea's model provided a way of analysing what the impacts were likely to have been. In this sense, the approach was deductive in nature.

Since this research was mainly conceived of as qualitative research, qualitative techniques were used in both the collection and analysis of data. The following section discusses the methods of data collection used in this study.

### **5.3 METHODS OF DATA COLLECTION**

Qualitative techniques describe people's representations and constructions of what is occurring in their world. It describes their experiences, knowledge of events and issues (Robinson, 1998). The techniques seek to portray human experiences and expressions. They are based on the understanding that there is a social construction to place, space and landscape and they seek to capture this construction in a manner that will provide insight into human experiences (Robinson, 1998: 408). The methods focus on individuals rather than on aggregates and seek to capture the knowledge and understanding of individuals

and groups. Since the problem in this research required depth of insight and understanding of issues, qualitative methods were therefore seen as of utmost relevance in the study. These were adopted in both the collection and analysis of both primary and secondary data.

### **5.3.1 Primary sources of data**

The major source of primary data was fieldwork in which the experiences, attitudes and opinions of people who were displaced by the dam, were probed. These were collected by means of in-depth interviews with respondents in the study areas. Respondent variables were also collected. These are data, which help to classify people, their circumstances and their environment. They may include data such as income, age, etc (Parfitt, 1997: 77). In this case they included information such as access to employment, access to common property resources, access to own home, access to land, access to food security and access to social ties.

The researcher used interviews as a technique to understand the past and present quality of life of respondents. It must be noted that the interview sessions aimed at comparing and contrasting access to these variables in the original areas and in the relocation areas. In other words the interviews were conducted in such a way that respondents could provide factual detailed information of what their well-being was with regards to these variables before and after the dam displaced them. Since interviews took a conversational, fluid form, each interview session varied according to the experiences, views and interests of respondents. The average interview session took about an hour, and several interviews were conducted with each individual household (see Appendix A).

It should be noted that the aim of interviews such as these is not to be representative but to understand how individual people and households experience and make sense of their own lives (Valentine, 1997). The emphasis is placed on considering the meanings people attribute to their lives and the processes, which operate in particular social contexts. Of course these can never be replicated, but only corroborated by similar studies or complementary techniques (Valentine, 1997).

Another way of thinking about the study is to see it as a relational research project, since it involved determining how two variables (people's well-being and the dam) are related to

each other. Palys (1997) has argued that for relational research, obtaining a representative sample is often not necessary. However, Palys has warned that one must be careful when undertaking this kind of research since phenomena or events may be related for many reasons other than integral, causal connections. In the current research project, this kind of problem was encountered. As explained below, the inclusion of households from a control area was an attempt to deal with the problem of whether certain changes could be directly attributed to the dam or not.

In this study, observation techniques were used to supplement in-depth interviews. Observation methods played a major role in allowing the researcher to identify observable similarities and differences between the three resettlement study areas and between these areas and the control area. The results of some of these observations are shown in the photographs. Besides observation, other senses were used to collect data such as sounds, temperatures and so on. In qualitative research, as Robinson has argued, all senses should be used to gather data (Robinson, 1998: 410). An attempt was made to do this.

As already explained, besides data that classified people (i.e. respondent variables), the researcher was also interested in data that sought to portray respondents' attitudes, opinions and beliefs. This data was also gathered through the interviews. As with respondent variables, obtaining this data involved a series of conversation sessions with respondents to obtain their feelings about the impact of the dam on their well-being. This involved asking questions that encouraged respondents to think about the situation in their original tribal lands and in the current place. These discussions allowed respondents to compare what they had with what they have now. At the same time, the researcher did try to keep in mind the human tendency to idealize and also to forget the past. This factor was taken into account in the analysis.

As a technique, tapes were used to gather primary data from interviews. While this was suitable for gathering subjective as well as some objective data, this was however supplemented by use of field notes. The notes were re-written after each interview session. All interviews were conducted in Zulu. To allow for effective analysis at a later stage, all tapes were transcribed. See Appendix B for a transcribed interview extract.

While the use of tapes may render some difficulties such as poor responses because a respondent is aware that she/ he is being interviewed, the researcher however did not experience this problem. This could be because of the good relationship established during the preliminary visits to the study areas. During the initial visit, the researcher took time to fully brief the respondents on the goal of the study. The respondents knew the researcher, the purpose of the study, and the implications of his presence in the study areas. It was interesting to note that in subsequent sessions, respondents showed a growing interest in the topic. They were willing to contribute new information and insights. The data collected was rich, because respondents added a new layer to the text at each interview.

In addition to the interviews, a few other primary sources of data were collected. This included newspaper articles from local newspapers such as *City Press* and *Mail & Guardian*. Government reports, such as the 1985-1986 report of the then Director-General of the Department of Water Affairs were also collected. E-mail correspondence also constituted a form of primary data (see Appendix C)

### **5.3.2 Secondary data sources**

Secondary data may be obtained from various sources. These may include scholarly products such as textbooks, journal articles, the Internet and so on. These constituted the main sources of secondary data for this research. Data obtained this in way was used mainly to facilitate the discussion in the literature review, Chapters Two and Three. They were also used in Chapter Four and the current chapter.

### **5.3.3 Selection of study sites**

The three resettlement study areas were chosen in order to provide an understanding of a range of different relocation sites and experiences. It was necessary to investigate the quality of life in households living in different contexts. This allowed the researcher to determine the extent and nature of dam impacts on households who were presented with various options and relocated to various contexts.

The first study area, Dinabakubo, was chosen because it is an unusually close group of relocatees. A large proportion of the displaced population from Ngcolosi was resettled in

this area and these resettlers retain a distinct character, living together in their own settlement. They are thus a particular homogenous group. In addition it is the only site purchased by the State for people whereas the Amakhosi of the Qadi and Amaphephetho tribes allocated alternative sites for their people.

The second study area, Ntuzuma G, was chosen because it is one of the resettlement sites located in an urban setting. The researcher wanted to know why people chose this option, what they hoped to gain. The researcher wanted to know how the abrupt change from a completely rural to a totally urban environment affected them.

The third site, Matikwe, was chosen because it is a peri-urban area. Like Ntuzuma G, the researcher sought to understand how the change from a completely rural to a semi-urban environment affected the quality of life of these people.

Imbozamo was chosen as a control against which the findings from the relocation areas could be compared. This means that results from the in-depth study of the quality of life of households in this area were compared with the results from the in-depth study of these factors in relocation areas. In other words, this procedure formed part of the measurement technique used to judge the validity of reported and observed data in the relocation areas. Imbozamo was chosen on the criteria that it is located adjacent to the same river in which the dam is built, however without displacement of households having occurred. This area is regarded in this thesis as a typical original area where the households were living before. Although some changes have occurred over time since the dam was constructed, however it was assumed that the area shares some major characteristics with the original places the relocatees inhabited. This comparison assisted the researcher in evaluating the impact of the dam on the displaced populations.

It was felt that three relocation areas with different characteristics would provide sufficient insight as to the impact of the dam. Another relocation area to which people were moved is Fredville (see Figure 4.1). While the researcher visited Fredville on a casual basis, the researcher already had a peri-urban area with which to work (Amatikwe). No households in Fredville were thus chosen for intensive study.

### 5.3.4 Sampling process

As one of the stages of research design, a researcher may decide whether to use samples instead of the whole population to collect primary data. In this study the most feasible approach was to recruit a small sample rather than targeting the whole population. The sampling process involves various activities. These include defining the sampling frame (where necessary), specifying the sampling unit and determining the sampling method (Shaw and Wheeler, 1994). Each is dealt with below.

While a population may be defined in terms of units, elements, area and period, a sampling frame locates the individuals within the population. In other words it is a list of all the objects within the population, for example all households with telephones in the Durban telephone directory, or all postgraduate students in the Department of Geographical and Environmental Sciences. In this study the population includes all households that were displaced by the Inanda dam in the late 1970s to the late 1980s. It includes all those who were moved to areas like Molweni, Matikwe, Ntuzuma, Fredville, Mzinyathi and elsewhere in tribal areas. Three sites were chosen for study, as explained above. A sampling frame existed for only one study area (Dinabakubo), and it was hard to obtain a sampling frame for other study areas. However because of the goal of the study and research philosophy, the sampling frame was not considered necessary.

With respect to the sampling unit, the household was used as a unit of study. As units of study the households were chosen based on the belief that the dam affected the whole household as opposed to only the individuals in households. One of the reasons for recruiting households as sampling units is that, as is well established in the literature, all members of poor South African households contribute to livelihood generation (May, 1996). Also, although members of households may share a similar background with similar experiences, however they may be heterogeneous with respect to their attitudes, opinions and beliefs. Therefore capturing this heterogeneity it was believed, would offer the researcher detailed understanding of a problem and provide more insight into the issues involved.

Certain criteria were used for selection of households. In recruiting respondents the researcher used the following attributes.

- Age: households had to have at least one person over the age of 40 years.
- Only households displaced by the dam would be interviewed.

This was done for households recruited in all study areas, excluding the control area. The aim was to obtain details on changes over time. It was therefore believed that, the people who could tell the history are adults who were there prior, during and after the communities were displaced. The older the respondent, the better, it was assumed. However this did not leave the younger respondents out. Although most of the youth provided details mainly about their current quality of life, this however supplemented information provided by elders who critically have watched changes in their livelihoods and quality of life. Those households interviewed in-depth all met the stipulated criteria. When a particular household did not meet the criteria, the researcher easily proceeded (using the snowballing technique) to a household that met the criteria.

This leads to the third aspect of sampling. A number of sampling methods exist. Probability sampling schemes are mainly useful in quantitative research and include such methods as random, systematic, stratification and so on. In the case of non-probability sampling, sample units are selected for economy and convenience while at the same time representing the characteristics of the population from which they have been drawn (Parfitt, 1997).

This thesis used non-probability sampling. Non-probability sampling schemes include convenience, purposive and quota sampling. While the main criterion for selection in simple convenience schemes is ease of collection, in purposive sampling a researcher selects the sampling units on the basis of background knowledge. In quota schemes a researcher selects units that represent collectively a replica of the population. In other words a quota sample is selected based on certain controls such as age, income and geographical location.

In this research both purposive and quota schemes were adopted. Households were selected mainly on the basis of their geographical location. As already described, three resettlement areas and one control area were chosen. Since households from different tribal areas were resettled to various relocation areas in urban and rural contexts, it was assumed that these diverse contexts had contributed differently to different households' well-being.

The researcher therefore sought to understand this difference by comparing households with regards to their quality of life. As is true with other non-probability samples, one limitation of the quota and purposive sampling schemes is that they fail to secure a representative sample (Palys, 1997). However, since the goal of this study was to provide insight and discussion, this technique was considered appropriate to achieve the aim of the research.

The actual method used to recruit households was “snowballing”. This means using one contact to introduce you to other potential contacts that in turn place you in touch with other contacts. Although the researcher, through desktop studies, knew where the populations displaced by Inanda dam were resettled, in the relocation areas it was difficult to obtain a list of all households (an exception was Dinabakubo community). Due to the lack of sampling frame, the snowballing technique was used.

This sometimes led the researcher to visit households whose movement to their current locations was caused only secondarily by the dam, but directly by violence. These are households in Matikwe who chose to relocate somewhere in their tribal areas rather than moving to an urban relocation site. They were thus moved by the dam to the upper area in the same tribal areas, but here encountered violence and were forced to relocate again. These households were not disqualified from the study because the original cause of disruption was the dam. Had they not moved to the upper areas, they would not have encountered the circumstances that forced them to relocate. The researcher probed deeply to understand experiences inherent in each stage of a household’s experience.

The snowballing method was used successfully to recruit households in the four chosen study areas. From each of the two relocation sites, Ntuzuma G and Dinabakubo, four households were recruited for in-depth interviewing. Another four households were recruited from Matikwe, but one household did not continue co-operating. Thus the researcher worked with eleven households in the resettlement sites. In the control site, Imbozamo, three further households were recruited. The total number of households in the sample was thus fourteen.

One strength of the snowballing technique, as Valentine (1997) has noted, is that it allows the researcher to gain interviewees trust and also that it makes it possible to make contact

with interviewees with particular experiences or background. By adopting this technique, these benefits were realised.

#### **5. 4 METHOD OF DATA ANALYSIS AND PRESENTATION**

As Dey (1993) notes, qualitative data deals with meanings while quantitative data is about numbers. The implication is that, while quantitative data is best analysed through mathematics and statistics, qualitative data are better analysed through conceptualisation. Concepts are articulated through description and classification and the relationship inherent between them analysed. Evaluation at all levels often embraces both qualitative and quantitative aspects (Dey, 1993). In the case of this study, the researcher did obtain some statistical data that were used to supplement subjective data. While quantitative methods were also used, qualitative analytic methods however dominated the final analysis.

The process of qualitative analysis was iterative in the sense that the researcher constantly referred information gathered to analysis and to theory. In other words the research process was not so clearly divided into set phases. Analysis proceeded in with data collection. In an attempt to make sense of data, the researcher spent a considerable amount of time in the field collecting data, revising preliminary findings, identifying gaps, consulting the literature, going back to the field, etc. After each conversation session the findings were recorded in the form of a story (i.e. a detailed summary of the major findings). This together with interview transcripts allowed the researcher to identify gaps inherent in data. These gaps were attended to and then filled in the next visit to households in the study areas. This in other words was part of the analysis, which together with repeated reviewing of the literature and theoretical framework underlying it provided the researcher with further direction.

It is also during the extended field visits that the researcher was able to identify patterns and themes. These patterns and themes then allowed for comparison between the experiences of various households in different areas. This was assisted by the concepts derived from the theoretical framework and models guiding the research.

Based on data gathered and recorded either on tape or on paper, the researcher identified themes and classified data into various broader categories. In Chapter Six, for example, the

creation of categories was guided by the categories in Cernea's Risk and Reconstruction Model described in Chapter Three. Cernea's categories however were rearranged to allow the researcher to achieve the aim and objectives of this study. By using these categories it was possible to capture both the subjective and objective indicators of quality of life of Inanda dam relocatees.

Quantitative data were displayed by means of graphs showing patterns and relationships between variables. The researcher used Microsoft Excel 2000 package to produce some figures, and Geographical Information Systems (GIS) packages to produce maps. This method however was not appropriate for analysing qualitative data. For qualitative data, the researcher relied on quotations from transcribed interviews. This was done to allow respondents authority in the presentation of results, although it was still necessary to arrange and interpret what was said. A few graphs conceptualising the data were also produced.

It might be useful at this point to remind the reader of the key research objectives, derived from the interaction between wider reading and the field research process. Four objectives were developed in order to fulfil the research aim, which was to assess the long-term impacts of the Inanda dam on resettled communities. The four research objectives are as follows:

- To examine the material impacts of the dam by comparing key indicators of quality of life before displacement, with the situation in resettlement areas.
- To determine resettlers' feelings and attitudes on how their quality of life has changed as a result of the relocation.
- To investigate how families have adapted in the relocation areas.
- To identify constraints to effective adaptation.

These objectives shaped the overall design of this research work, especially the remaining chapters, Six, Seven and Eight.

## 5.5 CONCLUSION

This chapter attempted to take the reader step by step from the initial period when the project was conceptualised to the last stage of write up and data presentation. The philosophy underlying the research design was discussed, together with the methods of data collection, analysis and presentation. Although the study was mainly qualitative, these methods were complimented by certain quantitative information.

It must be noted however that, because of the smaller sample the researcher used, no generalizations could be made from the data collected. Because of the nature of this research, however, a larger sample was not considered appropriate. The in-depth interviews placed considerable importance on individual households' stories. This is important in considerations relating to environmental and social justice, the main focus of which are not only the aggregates but also the individuals.

The following two chapters present and analyse the findings. The findings are divided into two main categories. The first discussion, presented in Chapter Six, is concerned with quality of life issues and the direct impact of the dam on the quality of life of displaced households. The control area is particularly important here in attempting to assess the ways in which life changed after the building of the dam.

The second discussion, presented in Chapter Seven, is concerned primarily with the issues of adaptation and reconstruction. Arguments in the subsequent Chapters Six and Seven therefore are intended to raise insights about the problems of forced displacement and poorly mitigated dam resettlement.

## CHAPTER SIX

### THE IMPACT OF THE INANDA DAM ON THE QUALITY OF LIFE OF DISPLACED AND RESETTLED HOUSEHOLDS

#### 6.1 INTRODUCTION

This chapter describes and discusses the impacts of Inanda dam on the resettled families. It focuses on both subjective and objective aspects of the concept of quality of life discussed in Chapter Three. Objective indicators were both observed by the researcher and reported by respondents. Issues are also clarified using the statements of feelings, attitudes and perceptions of the resettled households. The chapter describes the findings and comments on how the quality of life of these families was affected.

Eight categories of impoverishment risks were presented in Cernea's "Risk and Reconstruction Model" (see Chapter Three). These categories provided a guideline to structure the discussion in this chapter. The chapter however seeks to describe and discuss not only the negative impacts of the dam, but also potential positive aspects. As a result, Cernea's categories form part of the new and broader categories developed to achieve the aim of the chapter. The new categories in Table 6.1 below are more balanced in that they try to capture both positive and negative aspects of relocation.

**Table 6.1: Comparing Cernea's categories with those used in this chapter**

Cernea's categories	New categories used in this thesis
1. Loss of access to common property resources	1. Impact on common property environmental resources
2. Unemployment	2. Impact on access to wage employment
3. Food insecurity	3. Impact on food security
4. Homelessness	4. Impact on housing and living conditions
5. Increased morbidity and mortality	5. Impact on health status
6. Social disarticulation	6. Impact on social ties
7. Marginalisation	7. Impact on the relationships to society and state
8. Landlessness	8. Included in category 1 above

The discussion in this chapter is structured using the seven new categories and they form the major sections of the chapter. It must be noted that, this chapter attempts to fulfil the first two research objectives (See Chapter One).

Focusing on both positive and negative aspects section one examines the dam's impact on common property resources. While common property resources are diverse, the discussion here focuses on those that are most important for the survival of families in the study areas. These are water, energy and land resources. Section two examines the impact of the dam on employment. Emphasis is placed here on the impact on the cash component of income. Section three is a discussion of the impact of relocation on the in-kind component of income. The discussion in this section focuses on food security, and the researcher provides arguments on how the strategies for securing food were affected by relocation.

Section four examines changes in housing and living conditions that have taken place as a result of dam construction and forced removal. It is argued that living conditions in individual households and in the relocation areas have an impact on the health status of relocatees. Section five therefore examines the health status of families. Section six examines the impact of the dam on households' social ties and community bonding. Those structures that helped bind the households and communities together are examined. Lastly, section seven is more general and uses examples from all the sections to try and explain the conditions of marginalisation and related impacts.

The study findings do support past studies on the impacts of inadequately mitigated or uncompensated displacements. In this study, the issues of social disarticulation, marginalisation, morbidity, mortality, joblessness and loss of access to common property resources of water and firewood (identified by Cernea, 1997), all present themselves. However, homelessness or poor housing, landlessness and food insecurity, are the dominant issues. These are further exacerbated by many adaptation challenges discussed in the next chapter.

Besides these negative impacts however, there is evidence of some benefits of being in the relocation areas. There have been some improvements in the satisfaction of certain needs. These benefits however are not fully enjoyed as they have been achieved at the expense of other needs that families have always regarded as essential for their survival. For example,

the provision of potable pipe water cannot be substituted for improved housing and/ or landlessness.

## **6.2 ACCESS TO COMMON PROPERTY ENVIRONMENTAL RESOURCES**

Quality of life as defined in Chapter Three is a broad concept. Findings of this study confirm that householders do utilise tangible objects in order to describe their quality of life. The following subsection discusses how the dam affected access to common property resources. The three major environmental resources, i.e. land, water and energy, are core issues in the discussion.

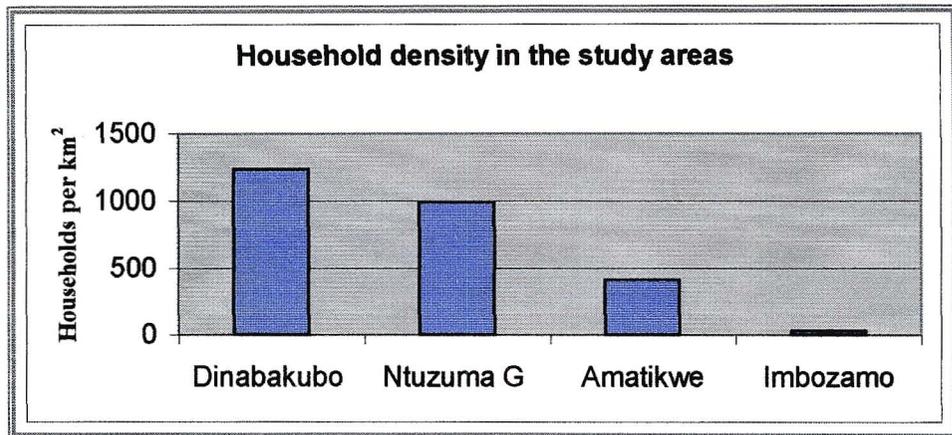
### **6.2.1 Access to land**

One of the crucial resources for livelihood generation of the displaced families is land. Land is important in many ways. In the places from which relocatees came, it provided space to build houses, to pasture grazing livestock, for cultivation and the like. While all households had rights to certain pieces of land, they did not own the land since it was held under “traditional” land tenure. This however did not deprive them of access to it. As an example of the improper manner in which resettlement was handled, the land basis of people’s productive systems was not properly reconstructed in the relocation areas. This was a form of decapitalization as householders lost both natural and man-made capital (see section 6.8 for more details). Up until 2000, the only available land in most resettlement areas has been limited to building a few houses or rooms.

All families visited, including those living in formal houses, expressed feelings of insecurity with respect to land tenure. While they have built structures and some are continuing to further invest in the small plots of land they occupy, they however lack security of tenure. They have no title deeds. The situation is worse for those living in “tin” houses since there is nothing to differentiate them from informal dwellers. In case they are subjected to further forced relocation, they cannot claim that the land is theirs. The “tin” houses are discussed in section 6.5.

Figure 6.1 below shows household density as an indicator of access to land in the study areas. One can see the major differences between the relocation areas of Dinabakubo,

Ntuzuma G and Amatikwe with respect to access to land. Dinabakubo is worse off with over 1000 families occupying one square kilometre of land. However, this is before each household was given 450m<sup>2</sup> of land (see Chapter Seven). Amatikwe is better off compared to all the relocation areas with less than 500 households sharing the land of one square kilometre. Figure 6.1 however indicates that households in Imbozamo (the control area where people had not been moved) are in a good position in terms of access to land.



**Figure 6.1 Household density in the study areas**

From the point of view of households in Dinabakubo, even the 450m<sup>2</sup> of land they have now is still very small compared to what they had in the past. The situation has not changed in Ntuzuma.

Access to land has important implications with respect to food security. Growing vegetables on land supports the livelihoods of poor households. This means that people do not have to have money to buy food all the time. Also, livestock ranching and extended families require sufficient plots of land for grazing and building additional houses to accommodate people. People relied on land in the original areas. This issue is discussed in detail below under the heading, “food security”.

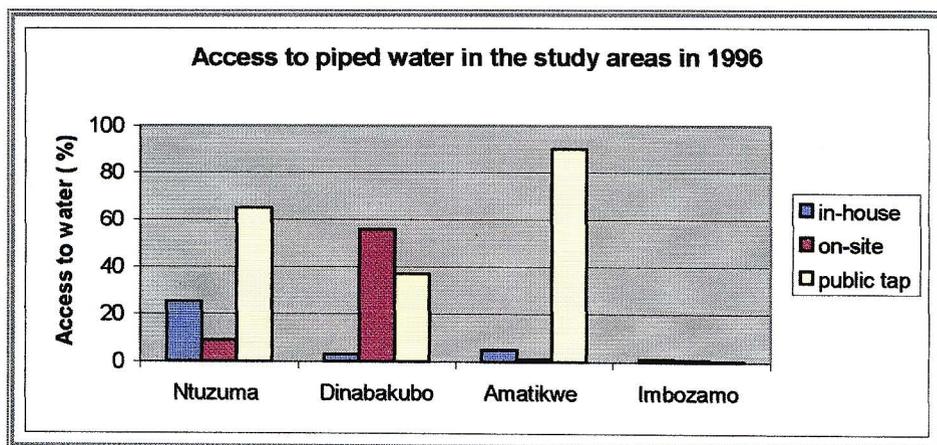
### **6.2.2 Access to water**

For all householders interviewed, their major source of water in their original areas was the Mngeni River, its tributaries and springs. This was a common property resource, without a single household incurring any money costs in having access to it. People insist that water was available in all seasons and they believe that it was clean enough and capable of

satisfying everyone's needs in the community. Water was used for many purposes. It was used mainly for washing clothes, drinking, cooking and swimming without any limitations on how much to use. It was a shared resource, i.e. shared within the community by different households and between livestock and human beings.

Access to potable and adequate water is a basic need for all human beings. Interestingly, even in the relocation areas, all families in the sample (with the exception of households in Dinabakubo) do have access to clean water and without incurring any money costs. This was evident in households living in the Ntuzuma and Matikwe relocation sites. Households in these communities use communal standpipes. In Ntuzuma, for example, the public standpipes used by families interviewed are close to their houses and they provide chemically treated water, which are clean and therefore safe. Water from these standpipes however is subject to abuse. This among other things is due to high competition for water as a result of high densities and the presence of 'free riders'.

Figure 6.2 is based on the 1996 census figures for the study areas. The graph compares five areas in terms of access to piped water supply. The graph shows that a very small percentage (less than 5%) of households in the control area, Imbozamo, had piped water in 1996. Among the relocation areas, Ntuzuma has the highest percentage of households with the highest level of water supply (in-house water). However, 65 % of households relied on the public tap. Figure 6.2 indicates that, at 55%, Dinabakubo was better off in terms of access to on-site (yard) water supply.



**Figure 6.2 Comparison of study areas in terms of access to piped water supply in 1996 (Source: 1996 census)**

The water situation in each resettlement area is, however, more complex and interesting than the above graph is able to show. Also, in the interviews, it became clear that there have been some changes since 1996. A key concern for residents in Ntuzuma and Matikwe is that the present positive situation with regard to water supply will not continue. They fear that the present situation is not sustainable and that water will be cut off because of the abuse.

The problem occurs with the communal standpipes on which households mainly rely. This water is subject to abuse due to high competition for water as a result of high densities and the presence of “free riders”. As noted, dam relocatees, especially the poorest do not pay for water. However they do not regard themselves as ‘free riders’. They believe they are entitled to getting free water because they are poor and because they are the victims of the dam. Free riders are regarded as those households who have and own on-site or in-house connection, yet who avoid high water bills by using communal standpipes instead. Households fear that, due to this abuse these public taps will be shut down, making it compulsory for them to install yard connection or be subjected to exploitation by those who sell water.

For households like the Thabede family, who rely on a R570 government pension for survival, such a condition would seriously erode the family’s income thereby adversely affecting the quality of life of householders. This family consisting of three people, estimate that they use about 50 litres of water a day. At the current average cost (in the Durban Metro area) of 30c for one 25-litre container of water, this would mean an expenditure of R180 per month for water alone. Families like the Thabede family cannot afford to have on-site or in-house water installed. If the communal standpipe supply is cut off, the Thabede family would have to pay for water. This would substantially increase their cost of living thereby impacting negatively on their quality of life.

In Matikwe, while some households use communal standpipes, some do have yard connections. They share a common condition in that even those with a yard connection do not pay for water. As in Ntuzuma, those who use communal standpipes are concerned that the service is subject to abuse and could be cut off at any time.

Besides the problem of water abuse in almost all relocation sites and the shutting down of water in Dinabakubo, households do not seem to have had problems with water in the relocation areas in the past. However given the problems as mentioned in the preceding paragraphs and possible future changes in water provision policies in the Durban Metro, there may be impacts on these in the near future.

Despite the current insecurity that householders appear to feel in Ntuzuma and Matikwe, the fact that families were not just left to fend for themselves but instead were provided with potable water in the relocation areas, is a positive outcome when considered on equity grounds. In general, treatment with regard to water provision for people displaced by the Inanda dam has been fair. Wenz (1988) argues that justice is done when people get what they deserve and what is due to them. Having access to an important resource such as water is one of the things every individual human being deserves. Water is a primary value. The relocation made it impossible for communities to get water from Mngeni River, and it is commendable that water was provided for resettled households. For all relocation areas at least up to the end of the year 2000, justice was broadly done with regards to water provision.

However, there are still cases of unjust practices, which degrade the quality of life of some displaced households. The situation in Dinabakubo provides a good example of social and environmental injustices. The community has neither a clean spring nor access to river water. This supply, for reasons not known to the community was terminated and families were denied access to the on-site water supply in 1998. While one standpipe remained functional, this standpipe was also closed off, in August 2000, immediately before local government elections. The issue of water closure in Dinabakubo is further discussed in the following chapter (Chapter Seven).

Households in Dinabakubo also complained that the price of purchased water was extremely high. Following water closure in this community, the situation is now worse because families have started incurring more costs on water provision. They now pay 50c per 25-litre container of water from the neighbouring communities. Given the large number of occupants at least in the households interviewed, it is obvious that these families are already experiencing major financial losses. This is a difficult time to them given the

fact that, in the original areas, they obtained water free of charge.

The current situation in the control area, Imbozamo, gives an indication of what the resettled households' experience would have been had the dam not been built. As can be seen from Figure 6.1, very few households in the community in 1996 had piped water. However some families have now acquired yard access. Families here are not confined to only one source of water, the shortage or the lack of which reduces their wellbeing. As Mr Mtolo explained, it is only those households who perceive a higher quality of life from having yard connection and those who can afford installation fees and monthly bills that make attempts to have water connected to their yards (Mr. Mtolo, pers.comm., 16 January 2001).

Mr Mtolo believes that most people see no reason to spend more on water as their rural area is rich in choices with regards to water access. In other words, private ownership of water is something that Mr Mtolo regards as optional. Those who use river and spring water face no competition between themselves, except minor competition with livestock.

**Table 6.2: Water access in the study areas before and after the construction of the Inanda dam**

Name of household	Study area	Current source of water	Water before dam construction
Msomi	Dinabakubo	Buy from neighbouring communities	Rivers and springs
Jali	Dinabakubo	Buy from neighbouring communities	Rivers and springs
Jali	Dinabakubo	Buy from neighbouring communities	Rivers and springs
Meyiwa	Dinabakubo	Buy from neighbouring communities	Rivers and springs
Nxumalo	Ntuzuma G	Communal standpipes	Rivers and springs
Mntambo	Ntuzuma G	Communal standpipes	Rivers and springs
Blose	Ntuzuma G	Communal standpipes	Rivers and springs
Thabede	Ntuzuma G	Communal standpipes	Rivers and springs
Hadebe	Amatikwe	Communal standpipes	Rivers and springs
Gumede	Amatikwe	Communal standpipes	Rivers and springs
Shabalala	Amatikwe	Yard connection	Rivers and springs
Khomo	Imbozamo (control)	Rivers and springs	Rivers and springs
Magwaza	Imbozamo (control)	Rivers and springs	Rivers and springs
Mtolo	Imbozamo (control)	Yard connection	Rivers and springs

Unlike in the dam relocation areas, households in Imbozamo have freedom with regards to access to water resources. This means that in terms of supply, households in the control area are better off. However, in terms of water quality, families in relocation areas are better off as the water they take is treated and guaranteed to be safe. The following table compares water access before dam construction and water access now in the study areas including Imbozamo (the control).

In summary, relocation areas are better off than the control area in terms of having access to good quality water, although there are concerns about how long this water will be provided free of charge. This does not apply to the Dinabakubo community, where the conditions have recently deteriorated due to the standpipe water having been cut off. While it is hoped that this situation is only temporary, the example of Dinabakubo does raise issues about payment and provision of free water in the other resettlement areas. It emphasises the insecurity of some households with regard to water access.

The issue of free water provision for the poor needs to be carefully considered by the Durban Metro Council. The resettled families are not paying for water provided in communal standpipes or even yard connections, and this must add to the cost of water provision in Durban as a whole. On the other hand, would it be fair to charge relocatees whose migration to the areas was involuntary? This debate supports the point made by Cernea (1997) that the risks of impoverishment due to inadequately mitigated displacements affect not only the people displaced, but also the local economy on which major losses and disruptions may also be inflicted.

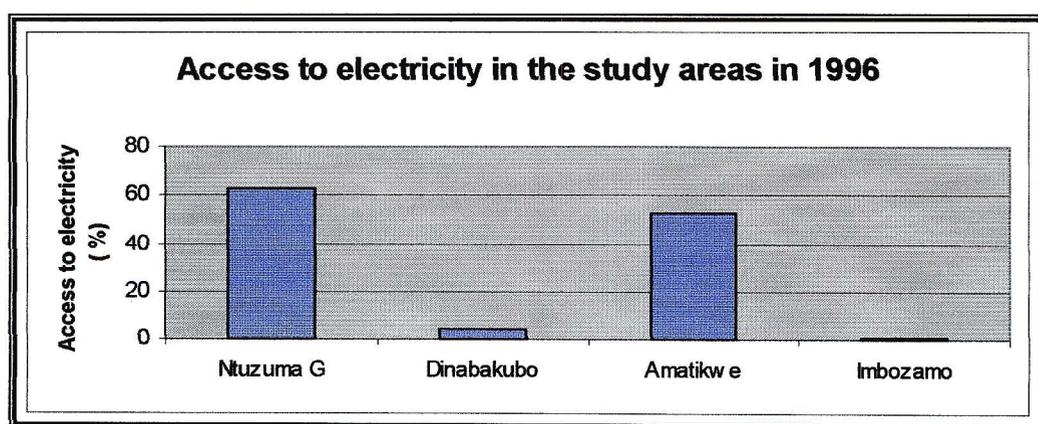
### **6.2.3 Access to energy sources**

Another critical resource without which life would be hard for most traditional, modern and post-modern societies is energy. In its broader sense and in the context of South Africa, energy sources may include such sources as electricity, paraffin, gas and firewood. Each source may have a certain value to a particular community at a particular time. At least in the era we live in, electricity provision may be regarded as the highest level of service compared to paraffin, gas and firewood provision.

One characteristic of the dam relocatees' original place was the biophysical landscape rich in indigenous species of trees, thereby providing a good source of firewood. The community also used paraffin and gas as alternative sources of energy. These sources however were used only on certain occasions. They were only used to supplement firewood. Access to electricity on the other hand was just a dream. While money costs were incurred to obtain paraffin and gas, firewood was obtained free of charge and thus formed a major source of energy resource in most families. This therefore means that householders spent very little on energy sources.

The relocation areas have provided households with many constraints and some opportunities with regards to access to energy. The majority of households (notably in Dinabakubo) have electricity in close proximity but no house installation. In other words electricity infrastructure does exist in the community, but only along the roads. All the households interviewed in this community use paraffin and none have had electricity installed in their houses.

Figure 6.3 below compares five areas in terms of access to electricity. Again, these figures are derived from the 1996 census and refer not only to resettled families but also to the whole population of these places.



**Figure 6.3: Comparison of the study areas in terms of access to electricity in 1996**  
(Source: 1996 Census)

With regard to resettlement areas, households in Matikwe and Ntuzuma G have reasonable access to electricity, between 55% and 63%. However, only 8% of households in the

relocation area of Dinabakubo have electricity and less than 5% of households in the rural control area of Imbozamo have electricity.

Householders who rely on paraffin were asked about their attitude to the use of this energy. Out of 11 households interviewed in resettlement areas, 6 do not have access to electricity and use paraffin. For these families one of the concerns is that paraffin is very expensive and its price is very unstable. Paraffin erodes the household's income. Households believe that it is more expensive than electricity and the problem with it is that it is not multifunctional. With electricity, one can use it not only for cooking and lighting purposes, but also for other purposes.

In Ntuzuma, Mr Thabede's family of three uses a one litre bottle of paraffin every one and a half days. This therefore means that the household uses about 20 litres of paraffin a month. Since one bottle (during the period of the study) cost R3,70 it therefore meant that the household spent about R74,00 on paraffin a month. This was also true in Dinabakubo. While the use of paraffin depended on what the household was cooking, usually a one litre bottle lasts for about one and a half days (Mrs. Msomi, pers. comm., 23 December 2000). A one litre bottle of paraffin in Dinabakubo however, cost R4,00. This means that the Msomi household spent about R80 a month on paraffin. Although this may be insignificant to someone who earns a reliable and sufficient income, to families like the Thabede family in Ntuzuma and Msomi family in Dinabakubo that live on R570,00 government pension, this expenditure is of vital importance. It means that the families have to forgo other important items that they could obtain with this portion of income. Mr Thabede of Ntuzuma believes that if he had electricity he would only spend R50 a month on electricity. He believes that with a pre-paid electricity card of R50 he and his family would be saved from ever increasing paraffin fees. Although Mr Thabede admits that electricity is expensive however, he thinks it is not something one will purchase on a daily basis.

As with water supply, then, Dinabakubo seems to be the worst off of the resettlement areas. Water has been turned off and if bought, costs more. No electricity is provided, and paraffin is more expensive. The situation in Dinabakubo with regard to electricity and water is discussed again in the next chapter.

While households interviewed in Imbozamo (the control area) still use firewood as the

main source of energy, the perceived utility of electricity seems to be high. This is because of the various purposes it serves. This was revealed by a local youth, when he said:

This area is good, and the only reason I can have so far for wanting to relocate would be associated with lack of electricity in this area. However, I would go to an area with electricity (Mr. Gwala, pers. comm., 19 December 2000).

During the period of the study, very few households in the control area had electricity. A local high school uses only solar energy, which in a way provides the benefits of electricity.

This section has described largely negative consequences of the dam in the context of access to energy resources. This presents a condition of injustice, since families were brought to areas with no natural forests and thus could not adopt traditional means of energy generation. Most households were also not provided with modern and well-accepted forms of energy such as electricity. The following table shows access to energy in the study areas before and after the construction of the Inanda dam.

**Table 6.3: Access to energy in the study areas before and after the construction of the Inanda dam**

Name of household	Study area	Current source of energy	Energy source before dam construction
Msomi	Dinabakubo	Paraffin only	Firewood and sometimes paraffin
Jali	Dinabakubo	Paraffin only	Same as above
Jali	Dinabakubo	Paraffin only	Same as above
Meyiwa	Dinabakubo	Paraffin only	Same as above
Nxumalo	Ntuzuma G	Paraffin only	Same as above
Mntambo	Ntuzuma G	Electricity	Same as above
Blose	Ntuzuma G	Electricity	Same as above
Thabede	Ntuzuma G	Paraffin only	Same as above
Hadebe	Amatikwe	Electricity	Same as above
Gumede	Amatikwe	Electricity	Same as above
Shabalala	Amatikwe	Electricity	Same as above
Khomo	Imbozamo (control)	Firewood and sometimes paraffin	Firewood and sometimes paraffin
Magwaza	Imbozamo (control)	Firewood and sometimes paraffin	Firewood and sometimes paraffin
Mtolo	Imbozamo (control)	Firewood and sometimes paraffin	Firewood and sometimes paraffin

However, households have different experiences and attitudes. Due to the nature of a particular relocation area combined with a reasonable socio-economic status, the experiences of some families are more positive with regards to access to energy resources. Those who have electricity in their houses have learnt to appreciate the value of having access to it. The youth are particularly aware of this. Ms M Hadebe of Matikwe admits that life was better in the original area, but says that her family was not aware of any other life. She emphasises the role played by media, more especially television in exposing one to new things. This is all made possible by having access to electricity. In the original area the household did not have electricity and as a result was denied access to information (Ms. Hadebe, pers. comm., 27 December 2000). She believes that life in the original area was like being on an island. Electricity has made the household life easy.

It is evident from the discussion so far that a shift from common property resources to modern and/or urban kind of services of piped water, electricity, paraffin and small plots of land has altered the quality of life of families. It therefore raises many questions about affordability. This is a great challenge to the Durban Unicity Council who have a duty of improving the quality of life of all residents within its jurisdiction.

### **6.3 ACCESS TO WAGE AND INFORMAL EMPLOYMENT**

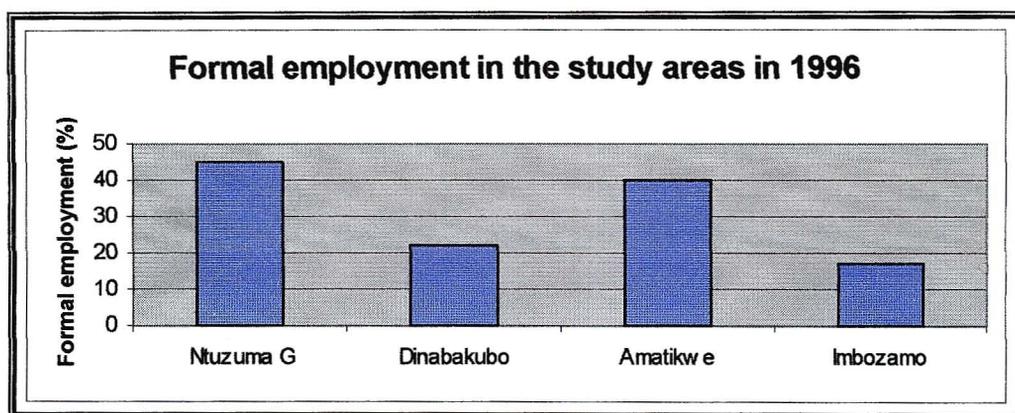
Livelihoods are made up of both cash and in-kind components. In the case of households displaced by the Inanda dam, households used formerly to derive income from various sources. These included cash income from wage employment; government pension and sale of self produced agricultural products. This section is concerned firstly with cash income from wage employment.

The dam does not seem to have negatively affected income derived from formal wage employment. At least for households visited, there is no evidence that the dam interrupted the employment of people in the formal wage paying institutions. Those who were working continued working in similar areas. In fact, the new locations are closer to town and in some cases make it easier to access employment.

It is possible that by bringing families closer to employment opportunities in the urban areas of Hillcrest, Pinetown and Durban, this might have raised people's hopes of

obtaining possible employment. It seems that despite the greater proximity, people still battle to find jobs. The relocation does not appear to have created any major changes. This among other things could be because of their lack of appropriate and competitive skills to be absorbed in the formal job market of these areas. This on the other hand could be due to the high levels of unemployment in the country as a whole.

Figure 6.4 shows the percentage of formal employment in the four areas in 1996. The figure is general and portrays unemployment not only for dam-displaced people but also for all people in the relocation areas. It however clarifies the conditions in relocation areas in terms of employment opportunities. Figure 6.4 provides percentage employment in the four study areas in 1996.



**Figure 6.4: Comparison of the study areas in terms of employment level (Source: 1996 census)**

It important to note that while wage employment has not been affected, the cash component of income negatively affected by the construction of the dam is that which was derived from sale of self produced agricultural produce. This is related to the loss of land. While some households practised only subsistence farming, some cultivated land for both subsistence and to generate some cash income.

The Msomi and Meyiwa households in Dinabakubo, the Hadebe and Gumede families in Matikwe and the Thabede family in Ntuzuma stressed this. These families all reported that they obtained some cash income from sale of agricultural products such as maize, chillies, peanuts and pumpkins. While some households were involved in a barter system with the Indian community in the Greater Durban area, some sold produce direct in the market. The

barter system was that in exchange for second hand clothes, households provided agricultural products. It appears that such clothes were later resold in their respective communities thereby allowing the families to obtain some cash income. This cash income formed part of livelihood strategies and thereby contributed to the improvement of household's quality of life.

One respondent commented on the social impact of unemployment in Dinabakubo. Mr. K. Meyiwa believes that being in Dinabakubo has changed the way young people behave themselves (Mr. K. Meyiwa, pers. comm., 23 December 2000). He thinks the area has produced more criminals, more alcoholics, teenage pregnancy and lack of respect for adults. He thinks local youth is "ruling over" their parents. He regards this as the effect of high densities, unemployment and shortage of entertainment facilities. He believes the youth has plenty of time, which is wasted or used in wrong ways.

Formal employment in the resettlement areas in 1996 is however much better compared to the employment level in the control area (see Figure 6.4). When reading this graph however, one must be careful because of the possibility of undercounting in the control area as a result of migrant labourers who were absent during the census. This therefore might have skewed the figure thereby exaggerating unemployment in this area. It seems evident that some householders who used to work before are now either government pensioners or unemployed or some still employed in informal sectors of the economy. The common trend is that families have very limited alternatives to supplement their money incomes. This has had an impact on food security, which is the focus of the next section.

#### **6.4 FOOD SECURITY**

Results of this study reveal that relocation impacted negatively on the strategies for sustaining access to adequate food. A major change that has taken place is a shift away from attempts to maintain food security to only obtaining food for daily survival. It has been a shift from mainly in-kind to mainly cash income generating activities. Involvement in a wide range of livelihood generating activities in the original areas allowed families to shelter themselves against poverty. The generation of in-kind income through practising subsistence farming was an important activity. This involved land cultivation and livestock keeping.

### 5.4.1 Land cultivation

While all households interviewed say that wage employment did contribute to bettering their lives, they all emphasised the major role subsistence farming played in maintaining a good quality of life and achieving food security. Their former land they say, was big enough to allow them to cultivate such crops as maize, bean, pumpkins, sweet potatoes, potatoes, *amadumbe*, etc. While these self-produced agricultural products were consumed in individual households, they were also exchanged between community members.

Such crops form a major component of the traditional Zulu diet, especially in rural areas. They play a major role in maintaining good health status. All households believe that hunger and poverty in their original areas was impossible. They believe it was something one would never even dream of. This is evident from the statement by Ms Blose of Ntuzuma when she said:

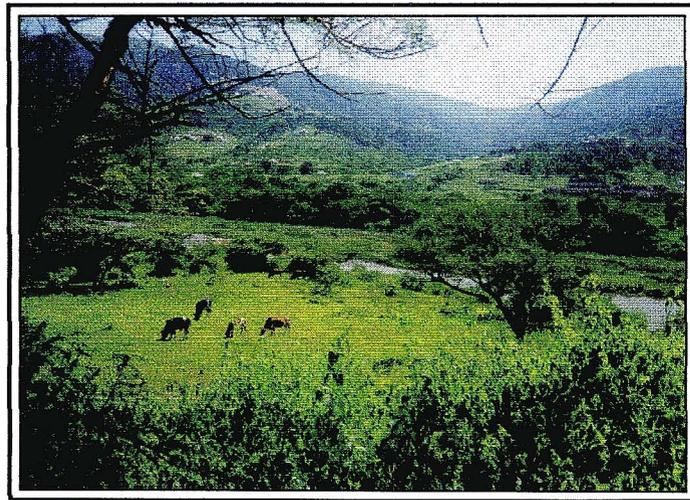
Here, one pays for every thing when in the past, one would just go to the field and get something to cook and eat and stop hunger (Ms. Blose, pers. comm., 24 November 2000).

The control area, Imbozamo, was visited at the time when seasonal crops were evident in the fields. The researcher did see maize, beans and *amadumbe*, all in good condition suggesting good quality and productive soils. The relocation areas especially Dinabakubo and Ntuzuma G do not have sufficient land to allow families to grow these vegetables. However, Matikwe is an exception as some vegetables were observed in the fields. This issue comes up again in next chapter, and will be discussed in more detail.

### 6.4.2 Access to livestock

Besides the adverse impact of lost agricultural land, all households expressed negative feelings about being unable to own livestock in relocation areas. In the past, before relocation, households' ownership of livestock varied. Some had cattle, goats and chickens. Some owned only goats and others only chickens. The numbers of livestock also varied from household to household.

All households interviewed (except the Msomi family in Dinabakubo) however share one common characteristic. They now no longer own livestock (especially goats and cattle). Some still own chickens, which however they are less in number compared to the numbers they had in the past. While Mr Msomi owned fifteen cattle, he managed to bring only four to the relocation area and even these he cannot continue pasturing because of inadequate land, conflict with neighbours, etc (see Chapter Seven on constraints to adaptation). Families in the control area still own livestock.



**Plate 6.1 Grazing cattle in Imbozamo control area**

Livestock such as cattle, goats, sheep and chickens etc, have many use values (material and non-material) in the rural areas. The direct use values include proteins derived from meat and milk. This is important to maintain good nutrition and provide food security.

From the discussion above, one may see the value households attached to land and livestock. Land however, is not only important in that families use it to plant crops which supplement their diet or crops which they can sell to generate some income. It is also a key to the provision of adequate shelter.

## **6.5 HOUSING AND LIVING CONDITIONS**

The needs for shelter, to be cared for and to be secure are defined by Smith (1997) as universal features of being human. These further influence needs to be healthy, to avoid harm, to be happy and to function properly. In the case of households resettled by the

Inanda dam, the researcher found evidence of households' deprivation of access to the important basic need of a reasonable shelter. Some relocated families however do have better housing than others.

Householders say that in the original areas they had sufficient land to allow them to build as many houses as they liked in their homesteads. In other words there was less crowding compared to the relocation areas. The following subsection provides a discussion on the differences between the present and past conditions with regards to crowding in individual households.

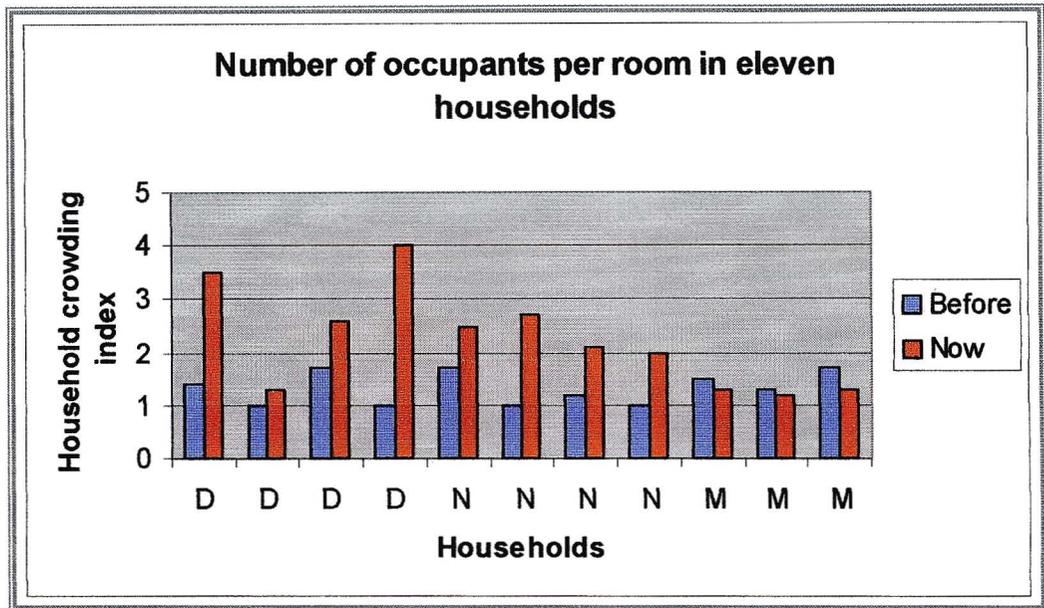
### **6.5.1 Household crowding**

Most families in relocation areas are now living in more crowded dwellings. For the eleven resettled households visited, the researcher discovered that on average, there had been four houses or structures in the homesteads. There were thus an average of seven rooms per homestead before resettlement. This is in contrast to the average of three structures with the average of six rooms currently evident in relocation areas. At least for households interviewed, while there is evidence of a 20% decrease in room space among all households, and there has been an 18% increase in the number of people occupying rooms. In other words, this shows an inverse relationship between the number of rooms and the number of occupants, over time. This is illustrated in Figure 6.5 below.

Figure 6.5 compares the past number of occupants per room in eleven households with the present situation. The vertical axis shows room occupancy ratio when relocation took place and compares this with current room occupancy. Figure 6.5 reveals that the households experiencing the highest densities as a result of inadequate housing, coupled with an increased number of people per room are those in Dinabakubo and some in Ntuzuma. With regards to capacity, households in Matikwe seem to be relatively better off. This could be due to the fact that this area is open and has low-density housing. As explained earlier, households here have relatively larger land compared to those in Dinabakubo and Ntuzuma. In the view of Ms Mntambo of Ntuzuma:

People in Dinabakubo are in most trouble. This is because they never got anything. The households have no homes. They are just staying there

because they are inside tins. It is a place, one cannot regard as home (Ms. Mntambo, pers. comm., 24 November 2000).



**Figure 6.5: The relationship between the past and present room occupancy ratios in eleven families of the three relocation areas of Dinabakubo (D), Ntuzuma G (N) and Matikwe (M)**

Some households in Ntuzuma do own four room houses made of bricks and asbestos. Other families however at Ntuzuma G, and Dinabakubo are still living in “tin” houses. By “tin” houses is meant the huts made of corrugated iron. These huts as predicted by Scott and Diab (1989) are not able to accommodate extended families of the displaced families, but too small. This means that fourteen years after the dam started operating their predictions are still evident.

The issue of accommodating extended families needs further explanation here. One of the characteristics of a typical modern Zulu homestead is a number of houses in any shape, together forming big *Umuzi* (homestead). In the case of households displaced by Inanda dam, this structure formerly allowed the growing family to be accommodated in the same homestead. In case houses were running short because of a growing family, there were no restrictions with regards to building additional houses to accommodate a family. Ms Meyiwa of Dinabakubo made this point. In the original areas, she stated, there were no significant money costs involved since local resources were employed and utilized.

Householders did not worry as to the type of house to build (Ms. Meyiwa, pers.comm., 23 December 2000).

Mr Nxumalo of Ntuzuma admits that even though he is not happy that he does not have title deeds and that he and his family have no home somewhere else in rural areas, he believes that he and some others are relatively better off. This among other things could be because he at least owns a four room compensatory house. He is mostly concerned about those whose socio-economic status is so low that they find it hard to reconstruct their houses (Mr. Nxumalo, pers.comm., 02 March 2001).

Asked to compare life in Ngcolosi and in Dinabakubo, Mrs Jali also expressed a strong feeling against not having a proper house for herself and her family.

If you have no house really what are you, but if you have a house you know you are safe. In Ngcolosi, we had our buildings. We were surviving, fetching water from Mngeni River, washing clothes free of charge, fetching firewood from the bushes, coming back and polishing our houses whenever we liked. Here now, one does not have space, even if one has a visitor, where will one place her or him, where will one place them? There it was nice yes, but here it is nice because it is closer to employment opportunities. However, since we have no property, just that alone is a worse experience. In the past houses were enough to accommodate all of us (Ms. Jali, pers. comm., 12 December 2000).

Another Jali family in Dinabakubo is worried that they can hardly invest in new furniture. This is because of limited space, given the smaller size of the tin houses they are occupying. These houses are only 9m<sup>2</sup> in size. The houses are of low quality so that any new furniture would be damaged within very few years of purchase, said Mr Jali. Ms Nxumalo of Ntuzuma and her family also live in a tin house. The following quote depicts her feelings about the conditions under which she and her family live:

How can I pay rates when I was living in a house before but now only living in the “bush”? As long as I am still living in this tin, I see no reason to pay rates. As long as I do not have a house of my own, houses others and I were promised, and am still living in a tin, I will never pay any rates. If I was given a house I would pay yes, but now I am still in the bush and waiting. If I do not get a house they should rather return me to the dam (Ms. Nxumalo, pers. comm., 19 December 2000).

The feelings of Ms Nxumalo further strengthens the evidence that impoverishment of the displaced people also interrupts the local economy as it triggers major losses. If one Durban Unicity resident like Ms Nxumalo refuses to pay for services that means loss to the Council. If the Council forces her to pay rates and yet she is still living in a tin house, it will be acting against its mission of improving the quality of life of all its residents. If it does not force her however it will continue incurring major losses since she is one of many.

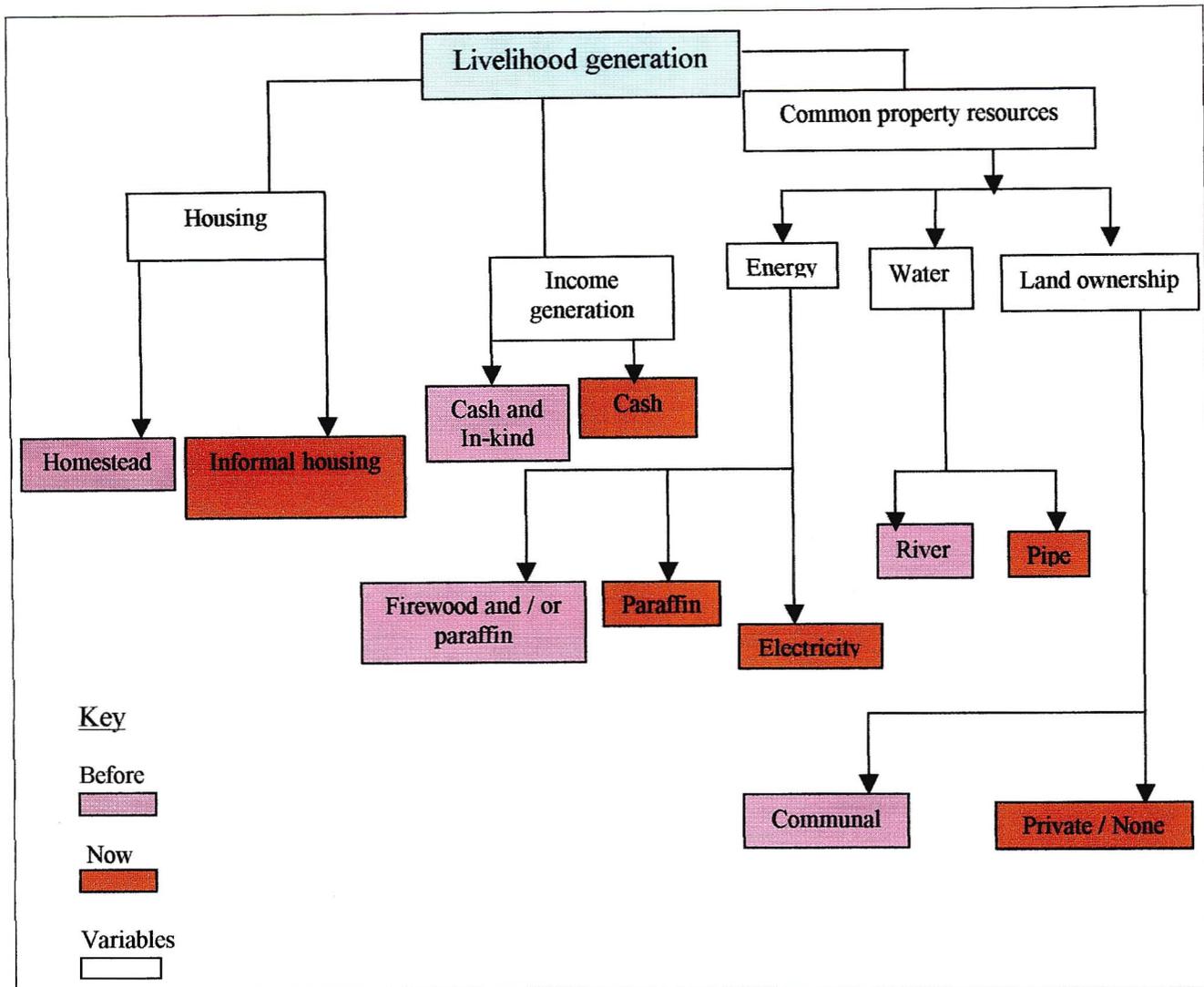
Having access to acceptable shelter, food, to be cared for and secured is a context independent need. Smith (1997) argues that human nature does seek the satisfaction of context-dependent needs. The satisfaction of historically constant and culturally invariant needs is however a primary value. Human beings will always derive value from having these needs met, irrespective of human location in history. Having access to proper housing is one of the primary values.

The discussion in the preceding sections leads to certain conclusions. While households are concerned about issues such as energy and water resources, lack of sufficient and proper housing seemed to be the major crisis for most households. Figure 6.6 below provides a summary of the changes in access to tangible resources that occurred as a result of involuntary relocation by the dam.

While some of the changes shown in Figure 6.6 are clearly negative (in particular, the situation with respect to land and housing), the picture is a complex one. Some changes have both good and bad aspects.

Up to this point in the chapter, the discussion has been mainly around access to tangible resources. The loss or gain of these things can be measured in tangible ways and an attempt has been made to do so wherever possible. People of course have feelings about the loss of tangible assets as these assets have particular meaning for them. These feelings have also been discussed. The chapter thus has been concerned mainly with achieving the first objective of the study, which is the following:

- To examine the material impacts of the dam by comparing key indicators of quality of life before displacement, with the situation in resettlement areas.



**Figure 6.6 Diagram summarising changes in access to tangible resources due to the involuntary relocation by the dam**

The rest of the chapter deals with some more “intangible” effects of the dam relocation. This does not however imply that these effects have not at all been addressed since the “tangible” effects already discussed also have feelings and attitudes attached to them. The following sections attempt to address in more detail the second research objective, that is:

- To determine resettlers’ feelings and attitudes on how their quality of life has changed as a result of the relocation.

## 6.6. HEALTH STATUS

While the researcher was not able to access statistics on the extent to which health status has changed in the relocation areas, there are examples, which highlight health risks experienced there. Some families interviewed have experienced diseases related to poor hygiene (linked by them to overcrowding), and have accumulated social stress. It was unfortunately not possible to obtain accurate statistics on the mortality and morbidity rates of the resettled households in comparison with others. Cernea (1997) suggests that increased morbidity and mortality rates accompany resettlement. The emphasis here is on families' views and observation rather than empirical records of disease.

Some families perceive a decline in health status due to unfavourable environmental conditions in their communities. Such conditions are believed to have led to major health hazards for relocatees. Ms Msomi of Dinabakubo believes that, since her family arrived in this area their lives have been hard. She associates many deaths in the community with poor housing conditions:

The worst thing is that most people who were moved to this area have died, and I am not sure whether this is because of very high and sometimes very low temperatures in these tins. People are dying and maybe it is because of this unnecessary coldness and hotness in this tin. In winter we are in the freezer and in summer we are in the oven (Ms. Msomi, pers. comm., 08 January 2001).

This condition of perceived decline in health status demonstrates the persistence of environmental injustices.

As noted in the methodology chapter, observation and the researcher's own senses played an important role here. The research was conducted at the time of the summer season when the temperatures were extremely high. When the researcher interviewed Ms Blose of Ntuzuma, the temperature inside the tin house was uncomfortable. In the second interview session with Ms Nxumalo's family in Ntuzuma, the researcher was forced to complete the session outside the tin house. The same occurred in Dinabakubo when the Jali household was interviewed. On the three occasions, it was extremely hot; the temperatures inside the tins were not tolerable and everyone inside the tin houses was sweating. Prolonged exposure to high temperatures in the tin houses is undoubtedly a health hazard.

Besides poor living conditions in individual households, other poor environmental conditions in these communities have triggered some health risks. In areas like Dinabakubo where potable water supplies are non-existent, this condition has increased vulnerability to vector-borne diseases such as diarrhea and dysentery. These diseases were reported in this community and Mr Msomi complained that he was admitted twice in the clinic in the year 2000 (Mr. Msomi, pers.comm., 23 December 2000). Such diseases however were also reported in the control area, Imbozamo. Some families there have installed piped water as a result.

“Social stress” is an environmental condition in the relocation areas, which is not easy to measure. Families were brought to areas of high densities and areas that were inhabited or that already had other neighbouring communities with a distinct culture. This has triggered many conflicts that have exposed these families to violence, crime and death risk (see section 7.4 of the next chapter). Because of these conditions households develop feelings of insecurity. In other words attempts to adapt are very stressful for some families. As they battle to balance the past and present, they accumulate stress.

Crime in these areas includes armed robbery and killing. While all households in all relocation areas expressed this concern, it was especially strongly emphasised in Ntuzuma. The relocation area in Ntuzuma is regarded as a “prison”. It is a place where one has no freedom to move around at any time of the day and night. This, from the point of view of households, does not compare favourably with the original areas where everyone knew everyone else and everyone was a community guard. This leads to discussion of the role of social ties in maintaining the community. The following section provides a discussion on how displacement and resettlement affected social bonding.

## **6.7 SOCIAL TIES**

With regards to social bonding, there are huge differences between the original and the relocation areas. The original areas were characterised by unique forms of social organisation. There was a traditional lifestyle, which played a major role in binding the community together. The traditional forms of governance, the extended families and caring neighbourhood exemplified this. While it is important not to romanticize this, forced displacement did tear apart the existing social fabric in the original areas. It dispersed and

fragmented communities. Although families were displaced in groups, e.g. the Maphetho people to Fredville, the Ngcolosi people to Dinabakubo and the Maqadi people to Ntuzuma, these people however left their relatives behind. They also left their traditional institutions, which played a major role in binding the families together and creating a “community”.

The issues of compensation broke the extended families apart. The Hadebe family in Matikwe, which left as early as the late 1970s, provides a good example of this. This family once formed part of an extended family. Due to conflict over who was going to receive compensation, this small family decided to leave early before compensation was given to the entire family. This meant that the small family was divorced from the larger unit and did not receive any part of the compensation paid. The Hadebe family is still alienated from its wider family context (Ms. Hadebe, pers. comm., 29 November 2000).

Also current conflicts that have been going on for years between the chiefs and their relocated people, demonstrate the power this interruption has had in breaking social ties. People are no longer loyal to their chiefs. This is manifest in the struggle by the Dinabakubo community to try to move away from traditional means of land tenure. The attempt by the former members of the Qadi tribe to claim money compensation from their chief is another example (see Appendix D). This is also discussed in more detail in Chapter Seven.

The relocation areas also have a local culture, which is different from the traditional culture in the original areas. In areas like Ntuzuma, relocatees are mixed with people from different areas with different backgrounds who came to this area for different reasons. While the people have survived as individuals, the community that was, is no more because of the spatial and cultural determinants that have been altered.

The Hadebe family in Matikwe believe that this is an unhappy place since neighbours lack “*Ubuntu*”. They do not care about each other and nobody minds another’s business. One cannot confidently approach a neighbour for help (Ms. Hadebe, pers. comm., 29 November 2000). Similar arguments were made in Ntuzuma:

Neighbourhood here is not the same as neighbourhood before, people were friendly in Maphephetheni, and here people do not care very much about each other (Ms. Nxumalo, pers. comm., 02 March 2001).

Breaking social ties has many implications. People lose their sense of belonging, feel insecure, and develop a sense of marginalisation. Cernea (1997) argues that marginalisation on the other hand occurs in such situations when people lose socio-economic and political power. The following section provides more discussion on this issue.

## **6.8. IMPACT ON RELATIONSHIPS TO SOCIETY AND STATE**

The needs for food, shelter, care and security are primary values, which according to Smith (1997) should be met for all human beings. These are needs which do not vary with tradition or culture and which are historically constant. The discussion in the above sections reveals that some families were marginalized economically, politically and psychologically. While the issue of marginalisation was not very easy to uncover in this study, families however did express feelings of marginalisation. Many examples in the previous sections exist to illustrate this argument. This section aims to discuss and clarify some of these examples further.

One of the characteristics of a marginalized group in most relocation areas according to Cernea (1997) is loss or under-utilisation of previously acquired skills. The following subsection discusses the impact of relocation on human capital of the displaced people.

### **6.8.1 Human capital**

Some households commented that the shortage of land meant that people's time was not being productively used. Including her own family in her comment, Ms Msomi of Dinabakubo sees no progress: people are just sitting down doing nothing (Ms. Msomi, pers. comm., 10 March 2001). This condition is further exacerbated by the fact that, even though this community is closer to employment opportunities than before relocation, most people are unemployed including the youth.

This is also true for households in Ntuzuma. Mr Thabede chose to come to Ntuzuma so that he would at least be closer to the work place. Employment opportunities in the formal sector of the economy are now limited and the negative implications of the choice he made are now realized in the long-term. He is now a state pensioner, but is unhappy to be home doing nothing. He believes, had he been in Ngcolosi (the original place), he would be cultivating land and herding his livestock, thereby supplementing the R540 state pension he is currently earning. Because of insufficient land in Ntuzuma, he is forced to stay at home “doing nothing but to watch the sun rising and setting” (Mr.Thabede, pers. comm., 24 November 2000). These are examples of social marginalization since these families have lost economic power as they went on a “downward mobility” path.

This however is in contrast with the experiences of those households in the control area, Imbozamo. While Mr Mtolo of Mbozamo is a state pensioner as well, he is however happy to be at home and not worrying about what to eat. He can go out to the fields, cultivate land and supplement the state grant of R540 (Mr. Mtolo, pers. comm., 16 January 2001). Mr Mtolo’s skills in other words, have not been rendered inactive or useless even though he is old.

Besides lost human capital, a drop in social status as a result of loss and abandonment is evident amongst some dam relocatees. The following subsection discusses the experiences of dam relocatees with regards to changes in social status that have occurred.

### **6.8.2 Social status**

The issue of losing access to acceptable housing raises many questions of justice, since this impacts negatively on the social status of households. In the relocation areas the neighbours regard the relocated people as “squatter settlers”. Such names as “tin town”, used in relocation areas, describe the negative perceptions people have of the relocated households. Their battle to challenge the status quo, discussed in the next chapter, clearly indicates that there are elements of neglect and abandonment. This has affected the families since they now believe that their citizenship as South Africans is not fully recognised. Mr Msomi remembers telling one white man (from a government department) who came to visit the “tin town” in Dinabakubo:

A white man would not allow his dog or cat to live in here, instead he would say, the puppy will die, it is too hot here, it is too cold here, and his cat will be sick. But me as a human being useful in government, paying all kinds of taxes, I am human and alive but have been made to live in this kind of environment. The government budgeted money to buy land, to buy these tins and toilets and provided us with water at that time, however where did the budget to build our houses go, where did it go? (Mr. Msomi, pers. comm., 10 March 2001).

This quotation further provides evidence of social injustice at a broader level. Mr Msomi expressed a concern that the dam relocatees have been dehumanised, that their lives have been reduced to even below the lives of white people's pets. In this case householders compare their quality of life with the quality of life of other human beings.

All relocatees interviewed are concerned that the dam is operating and it serves recreational purposes by allowing such activities as jazz festivals, canoeing and fishing to take place. It supplies water to the greater Durban Metropolitan Area and contributes to national economic growth. All these benefits however do not reach the former residents of the area instead the families are battling to reconstruct their quality of life.

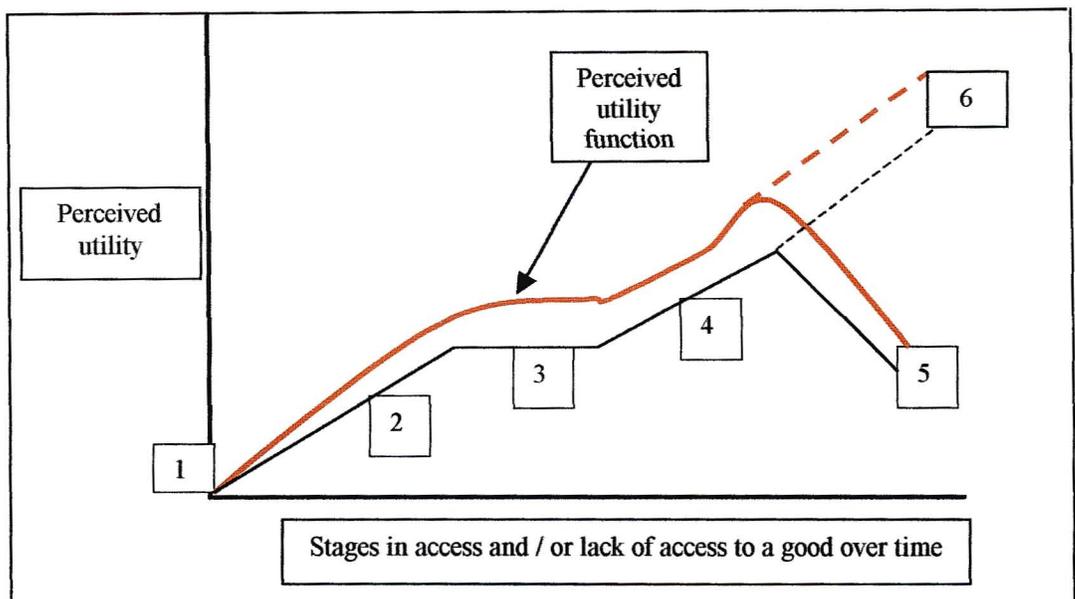
It also appears that, where families were self-sufficient with a high degree of independence, all that has vanished. The following quotation illustrates how some families link loss of access to livestock and changes in social status:

Cattle have many uses to us. Loss of access to cattle lowers a man's dignity, attachment to tradition, loss of access to fresh milk, and the like. Now we cannot freely practice our Zulu culture, instead we are now forced to buy expensive cattle from commercial farmers (Mr. Msomi, pers. comm., 08 January 2001).

What exacerbates the feeling of loss is that the main losers compare their living conditions with the living conditions of their neighbours who are living better lives. Watching other people progressing where no positive changes are taking place in their lives constantly reminds these households of the better life they had in the original areas. In other words the perceived importance of good housing, good quality water, easily accessible and affordable energy, land, etc has increased in cases where these tangible objects are no longer adequately available in the new areas. The argument by Mr Ngcobo of Dinabakubo illustrates this:

When I see the dam from here (*the upper area of the Valley of a Thousand Hills*), I realize what an intelligent initiative it was to build it. It is beautiful and I really appreciate that it was built. When I think back and recall what we lost, however, and compare it with the kind of life we are living now, and then compare this life with the good living conditions of our neighbouring communities, tears come out of my eyes (Mr. Ngcobo, pers. comm., 12 December 2000).

This quote and the discussion in this subsection challenges the model by Hankiss (1983) on quality of life discussed in Chapter Three. According to Hankiss there is a peak where the perceived usefulness of a good or a service will decline as a result of it being no longer offered or available. Figure 6.7 below is a revised version of this model, which attempts to describe the experiences of Inanda dam relocatees. The dam relocatees have not got used to the loss of certain resources (e.g. their land, good housing) and the perceived usefulness of these objects is increasing not declining.



**Figure 6.7 Graphic presentation of the relationship between perceived usefulness of a good/service and access or lack of access to it over time**

The numbers 1 to 5 in figure 6.7 above represent the five stages. Number 1, is the situation where there is no possibility of obtaining the good or service, therefore perceived utility is low. Number 2, represents the situation where opportunities to obtain the good or service prevail, therefore perceived usefulness increases. Number 3, represents the condition where the good is obtained and consumed. The perceived usefulness therefore stabilizes or

culminates. Number 4, represents the situation where a particular individual is deprived of access to the good or service, therefore making it more desirable. According to Hankiss, (1983) when the good or service remain unavailable, perceived usefulness will decline further (Number 5 in figure 6.7).

The researcher argues that for the Inanda dam relocatees, the relationship has tended to follow the broken line on the diagram above (Number 6). This shows a continuous increase in perceived usefulness of tangible goods and services after these became unavailable.

Hankiss was not specific on the type of goods and services to which the argument applies. But the findings of this study reveal that the dam affected mainly the historically and culturally invariant needs for water, shelter, food, security and care, which Smith (1997) defines as primary values. All householders always enjoyed access to these tangible goods. When these became unattainable and continue to be unattainable, the perceived usefulness of these objects by householders continues to increase. People continue to feel neglected, unsecured, dehumanised and thus marginalized.

## **6.9 CONCLUSION**

The aim of this chapter was to provide a discussion on the impacts of the Inanda dam on the quality of life of families that were displaced and resettled. The discussion was carried out using both objective and subjective indicators of quality of life. Many social and environmental injustices evident in the Inanda dam debate were highlighted. The discussion in the chapter reveals that overall, the dam impacted negatively on the quality of life of dam relocatees. While certain needs have been met, the achievement of this however has not fully restored families' quality of life.

Access to potable piped water as opposed to using river water and access to electricity as opposed to using firewood do not offset lack of access to certain basic services such as proper housing, land and so on. This is because these basic needs were achieved at the expense of access to other basic needs householders have always regarded as of vital importance to their lives.

There are values attached to whatever the families lost. This is true for the tangible and intangible culturally invariant and historically constant indicators of quality of life. Everyone needs clean water, sufficient food and good shelter, so do the relocated families. Everyone needs to feel secure, and to belong, so do the relocated families. These are needs which are not only important because householders belong to a particular culture group, but because they are human beings.

In terms of Cernea's model the issues of social disarticulation, marginalisation, morbidity, mortality, joblessness and loss of access to common property resources of water and firewood all present themselves. However, homelessness or poor housing, landlessness and food insecurity, are the dominant issues. These are the negative aspects of the relocation process. Besides these negative impacts however, there is evidence of some benefits of being in the relocation areas. There have been some improvements in the satisfaction of certain needs.

The issues of dam impacts discussed in this chapter are closely related to the issues of adaptation in the resettlement areas. It must be noted that in discussing the impacts of the Inanda dam, the researcher could not avoid mentioning certain examples of families' adaptation in relocation areas. This however has been limited in this chapter since the focus was on discussing the impacts only. The present chapter did not make attempts to explain the actual methods families have used and are using to adapt in the relocation areas. There was no attempt to go into detail identifying and explaining constraints to effective adaptation. The next chapter, which focuses on these issues, is directly related and is based on the description and discussion of findings provided in this chapter. While this chapter focused on the first part of Cernea's Risk and Reconstruction model, Chapter Seven focuses on the second part of the model, reconstructing quality of life.

## **CHAPTER SEVEN**

### **RESETTLED COMMUNITIES AND THE PROCESS OF ADAPTATION**

#### **7.1 INTRODUCTION**

The relocation areas are characterised by socio-economic conditions and biophysical environments, which differ significantly from the conditions of the former areas of dam relocatees. The previous chapter provided many examples, to support this. High population densities, insufficient housing to accommodate extended families, insufficient land to allow for subsistence farming, unavailability of common property resources, ongoing demands on cash money, unfavourable institutional structures are some of the everyday life challenges that relocated families have faced.

The previous chapter provided a description of the impacts of the dam on the quality of life of the families that it displaced. The strategy adopted in the previous chapter was to compare the past and present in order to explain how the quality of life of families was affected. The control area, Imbozamo was also used for this purpose. It must be noted however, that the chapter made no serious attempts to explain how have families reached their current living status, that is what strategies they have utilized to achieve progress and what forces limit their progress. Given the nature of their previous lifestyles and the biophysical environments as described in the previous chapter, the question therefore is, how have these families adapted in the new environments?

This chapter focuses on the present living conditions of families. It attempts to provide a discussion on how households have adapted in the new areas. The chapter discusses both adaptation strategies as well as constraints to effective adaptation.

The chapter is divided into three main sections. The first section provides a critical examination of the kind of support mechanisms that the state provided to counteract social hazards in the case of the Inanda dam. Cernea (1997) and other writers emphasise the importance of state mitigatory and support mechanisms when populations are relocated

due to the building of large dams. This is followed by a discussion of the adaptation strategies adopted by families in the relocation areas. The researcher analyses group and individual coping strategies and attempts to explain why relocatees in some areas are better off than in others. All families visited in the study areas are still mourning for what they left behind. They are however trying to integrate it constructively into a blend of old and new rules, models and habits that now constitute their new reality. The last section provides a critical discussion of those forces that hinder effective adaptation in relocation areas. While sometimes internal forces retard progress, external forces also often undermine the efforts of dam victims to attain a good quality of life.

## **7.2 STATE SUPPORT MECHANISMS**

In the case of the Inanda dam, intervention by the South African government to reconstruct the quality of life of the displaced households followed a traditional approach. It was “top-down” and placed more emphasis on compensation, than on development. Three modes of compensating displaced families were adopted. Compensation in some cases took the form of providing cash (money). The provision of land and houses also formed part of compensation. Any individual family however did not benefit from all forms of compensation. While some families got money and land, others got money and housing. Some families got only money and others got nothing.

These methods of compensation were all inadequate since they did not assist to restore the previous quality of life. The approach overlooked many of the social and economic costs, (for example loss of access to common property resources and housing) and as such, these costs were not compensated. The resettlement programme in other words was not implemented in such a manner that project-affected people were going to be left the same or better off. The following subsection presents a brief outline of the kind of compensation that the state provided at the time.

### **7.2.1 Compensatory land**

According to Khanyile (1998) the decision to buy land for resettled communities was reached following a resolution of the former KwaZulu cabinet in April 1983 and subsequent agreements with the affected tribal authorities. The decision was accepted by

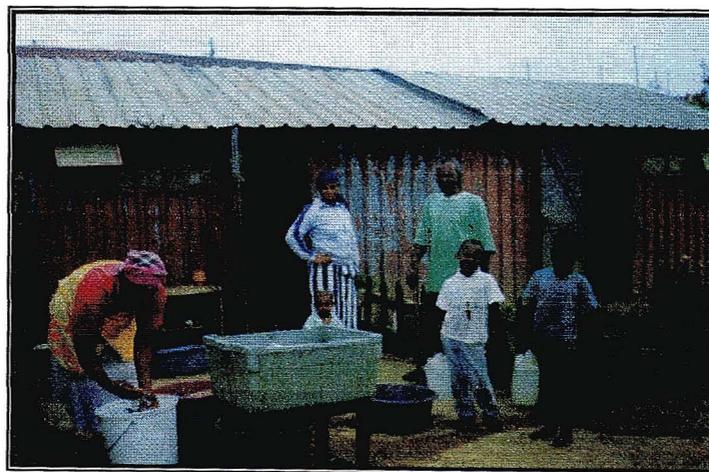
the then central government. According to Khanyile, what complicates things is confusion as to whether the compensatory land was offered to the tribal authorities as such, or whether it was offered to the tribes in their broader sense (Khanyile, 1998).

Compensatory land consisted of Waterfall farm no. 978, Langefontein farm no. 5981, and Berrel Farm no 14738 all about four kilometres south of the dam. It is only this land that was purchased by government in compensation for lost land. These farms were purchased for the displaced people of the Ngcolosi tribe (Mr. Meyiwa, pers. comm., 08 January 2001). It is here that Dinabakubo is located.

The tribal authorities of Amaphephetho and Amaqadi provided the land for their people affected by the dam. Rietvallei farm no. 851 south-west of the dam was given to the displaced people of the Amaphephetha tribe (Mr. Meyiwa, pers. comm., 08 January 2001). It is in this settlement that the Fredville “tin town” is located. Groenburg farm no. 844 north west of the dam was provided for the displaced people of the Amaqadi tribe (Mr. Meyiwa, pers. comm., 08 January 2001). These people however were never able to occupy this land (see section 7.4 of this chapter).

### 7.2.2 Compensatory housing

The main form of housing type that was provided are huts made of corrugated iron. These are known in these communities as “tins”, thus explaining such names as “tin town”, the name that even appears in the official survey of 1996 census.



**Plate 7.1 The Nxumalo family in Ntuzuma G in front of the two-room compensatory “tin” house**

All families that were displaced formally got these “tins”. Such shelters as the one shown above were meant to provide temporary accommodation. Some families who were relocated to Ntuzuma G were later provided with formal compensatory four-room houses. It must be noted, however that only some of the families to Ntuzuma got such compensatory houses. Others in the same community did not get these houses. Mr Thabede described how his family and others were left out of the housing scheme:

Getting a house depended on how fit you were, after the announcement that houses were ready, people ran very fast to occupy them. A house was obtained on first come first served basis. The faster one ran and stood in front of a house, then keys were handed to that person, and it is not only the dam victims, but everyone in Ntuzuma who heard the announcement and participated in this competition (Mr. Thabede, pers. comm., 02 March 2001).

### **7.2.3 Water provision**

Where resources such as water were non-existent, attempts were made to provide these. The Dinabakubo settlement was provided with four communal standpipes. While families in Ntuzuma had to purchase water initially, these families however benefited from the communal standpipes that were later provided for all households in this community.

### **7.2.4 Compensatory money**

Compensatory money was in the form of cash and it was not equal for all families but was provided only for lost property and other assets. There are many arguments in the literature against cash payment as a form of compensation for lost assets. According to Cernea (1997) cash does not overcome impoverishment. In the Inanda dam case study, cash was not issued to compensate for lost land and many other non-market environmental goods such as common property resources. Families got nothing for these. For families the researcher visited, money compensation ranged between minimum of R1 000 and a maximum of R5 000 for each family.

The discussion above reveals that, the kind of support that the state provided varied between different households in different relocation areas. This raises many questions of justice. The provision of alternative land and housing was fairly good on equity grounds.

The major drawback however is the manner in which these benefits were distributed across households in different relocation areas. Given the fact that relocated families were generally of similar socio-economic status, it is questionable as to what criteria were used to justify unequal treatment of dam relocatees in terms of resource allocation. In other words what differences served as justification for differential treatment of households? For further clarification of the kind of compensation given to different families, see Table 7.1.

**Table 7.1 Compensation breakdown for eleven families visited**

Household	Relocation area	Compensation type		
		Land	Money	Housing
Thabede	Ntuzuma G	No	R1000	Corrugated iron shelter
Mntambo	Ntuzuma G	No	R1000	Corrugated iron shelter
Nxumalo	Ntuzuma G	No	R0	Corrugated iron shelter
Blose	Ntuzuma G	No	R1000	Corrugated iron shelter
Msomi	Dinabakubo	450m <sup>2</sup> provided in 2001	R5000	Corrugated iron shelter
Meyiwa	Dinabakubo	450m <sup>2</sup> provided in 2001	R2000	Corrugated iron shelter
Jali	Dinabakubo	450m <sup>2</sup> provided in 2001	R2000	Corrugated iron shelter
Jali	Dinabakubo	450m <sup>2</sup> provided in 2001	R3000	Corrugated iron shelter
Gumede	Matikwe	No	R0	No
Shabalala	Matikwe	No	R5000	Corrugated iron shelter
Hadebe	Matikwe	No	R0	No

Cernea (1997) warns that effective implementation of reconstructive initiatives requires avoidance of a top down approach. Such initiatives should involve all the stakeholders, i.e. dam agents such as government, project donors, local people as well as people in the host areas. Cernea also stresses the need for dam agents to perceive resettlement as an opportunity to develop the displaced groups. This means not only compensating and restoring the interrupted quality of life but rather to improve it. It means moving away from the Hicks-Kaldor *hypothetical compensation criterion*, discussed in section 2.4 of Chapter Two. Given the nature of state intervention, which adopted a top-down approach, the following section provides a discussion on the response of the displaced families in relocation areas. It describes and analyses the coping strategies families have adopted.

### **6.3 ADAPTING TO RESETTLEMENT**

The process of adaptation has not been the same for all households in different relocation areas. The process started immediately on arrival in the new places and has continued up until the year 2001. While for some households the process has been short for others it has been longer. The common reality for all households visited is that the process has been a difficult one. Many factors have both promoted and hindered effective adaptation of families. This section focuses on reconstruction successes of dam resettlers. The exact strategies they have utilized and are still using in the adaptation process are examined.

Hulewat (1996) argues for the important role positive attitudes play in helping the displaced people adapt effectively in resettlement areas (see Chapter Three). The following subsection discusses the attitudes that dam victims have displayed. It also attempts to explore the link between certain attitudes and adaptation in resettlement areas.

#### **7.3.1 Attitudes to adaptation**

Households emerged as having developed various attitudes to adaptation. Of course as time goes on, families change from one character to the other. Based on relocatees' coping characteristics identified by Hulewat (1996) there is evidence of families who have emerged with the "take care of me" characteristic. All householders seem to have developed this condition at first. This can be associated with the preparatory stage, the actual migration and arrival in the new place (stages of resettlement). This is the period in which all households were still expecting further assistance in the form of promised assets such as land, housing etc, from the government. The time however has been long enough for some households to realize that prolonged dependence retards them from getting on with their lives. Many examples of this change are discussed in the subsequent subsections.

Research findings reveal however that, there are families who are still trapped in this "take care of me" attitude. Various reasons exist that explain their inability to move on. More examples are provided in section 7.4, on constraints to adaptation, however one major factor is their low level of socio-economic status.

There is evidence on the other hand of householders who have developed the attitude of “help me get started”. This is the attitude, which most householders seem to be sharing presently. This stance is regarded as of most importance in the literature. In the case of some dam victims, householders are truly eager to gain control of their lives and move ahead to become independent. However, the constraints discussed in section 7.4 raise major challenges and many questions of social and environmental injustice.

The “you will do it my own way” attitude is also manifest among some dam relocatees. This in the literature is regarded as a bad attitude since it delays adaptation. In this study however, there are positive elements as well that can be attributed to this kind of attitude. Householders use the attitude to avoid any possible exclusion from decisions about their attempts to adapt in the new environments. It marks a shift away from top-down approaches and insists on full participation. Reference to this attitude is made in the subsequent subsections when the researcher discusses strategies utilized in reconstructing particular tangible things such as housing, land etc. In section 7.4 limitations of this attitude are also discussed.

The coping strategies of different dam victims differ. The strategies however are informed by the goals and objectives of a particular relocated group. While families use individual coping mechanisms, there is also evidence of group coping. Group coping strategies according to Sluzki (1986) are important since community members gain a sense of control even though they may be quite powerless to deal with a given injustice. In the discussion the researcher makes reference to both group and individual household coping strategies. The following subsection discusses the manner in which Inanda dam relocatees have reconstructed the “community” in an attempt to combat marginalization in the relocation areas.

### **7.3.2 Developing community organizations and combating marginalization**

The previous chapter discussed how the family, group and community structures were interrupted by displacement. Cernea’s model warns that family, group and community ties need to be protected from breaking apart (Cernea, 1997). While the South African government might have mainly failed to achieve this objective, some attempt was made to relocate families in groups. This in some cases prevented the previous family, group and

community structures from breaking apart completely. When the structures were interrupted, households through group effort have attempted to reconstruct these, however in a different form.

These communities do share some characteristics presented by Sluzki (1986). They have, through collective coping strategies, gained a sense of control. Their strategies however have many limitations. These limitations are discussed in section 7.4 of this chapter.

According to Scott and Diab (1989), the Qadi people had early on formed an organization, the Qadi Inanda Dam Committee, which challenged money compensation through negotiations with central and local government officials. While it has been many years since the dam was completed, the struggle still continues. The relocated families are still continuing to demand money compensation. This time they demand money compensation not from government only, but from their former Inkosi as well (see Appendix D).

The strategy of the communities (mainly the former members of Qadi tribe) in Ntuzuma place most demand on money compensation. This is evident in their move to take their former Chief to court. While members of the former Qadi tribe interviewed witnessed to this, the issue also appeared in the *City Press* newspaper. The community accuses their former Inkosi of having misappropriated the R5.6 million, which was paid to the tribe as compensation for building the dam on land it owned. According Zulu (2001: 4), the former members of the Qadi tribe believe this money is still available for them and has now increased to almost over R14 million.

This is a very controversial issue given the fact that these households are no longer part of the Qadi tribe. Instead they are under the administration of the Durban Metro Council. If this money was to be spent in such a way that all members of the Qadi tribe would benefit it is questionable whether these people would benefit since they no longer are members of the Qadi tribe. Ms Blose notes that, the dam-resettled people in Ntuzuma have for quite some time been attending meetings to discuss the issues of compensation. She admits that she sees no benefits from such meetings, which is why she, her family and other people have joined the Masakhisane housing scheme discussed below. Other dam relocatees interviewed also expressed this kind of feeling.

Some householders did get their money compensation, but because of its inadequacy, they were told they were still going to get some more money compensation (Ms. Blose, pers. comm., 02 March 2001). This may explain why the Qadi relocatees are continuing to demand money and taking their former Inkosi to court.

Although not as strong as the former members of the Qadi tribe, the relocatees of the Maphephetho tribe also in Ntuzuma, seem to have made similar attempts to claim money compensation from their former Inkosi. Ms Mntambo stated that relocatees have approached their former Inkosi about money compensation and general assistance to help them reconstruct their homes in Ntuzuma (Ms. Mntambo, pers. comm., 02 March 2001). Relocatees seem to believe that their former Inkosi might also have got money compensation for land, which they are entitled to benefit from. Relocatees say that their former Inkosi did inform them that the tribe had been compensated, but that he had not accepted the money since it was far less than that given to the Qadi tribe. Ms Mntambo says that since then relocatees never heard a thing whether the tribe did or did not accept compensation.

Demanding money compensation cannot be viewed in isolation from other strategies for coping with loss. It is a particular form of expressing dissatisfaction and thus a strategy. The struggle is initiated and carried out by the community, therefore it is a group coping strategy. The researcher's aim however is not to argue for or against this kind of strategy but to present it as a particular type of approach to adaptation.

It is important to note that in attempting to reconstruct the "community", households in Dinabakubo elected their own representatives. Households wanted to ensure that they elected representatives who would serve their interests. This was a breakaway from the traditional leadership of the Ngcolosi Inkosi. The community formed the Dinabakubo Civic Association, which was later replaced by the Development Committee. These structures were established to facilitate development in the community. These structures have played a major role in uniting this community. In the past the land the Dinabakubo settlers are currently occupying has been surveyed several times by potential developers. However the community forbade development since they felt that such development was not in line with their interests and needs.

As in Dinabakubo, in Ntuzuma G there are still many households whose inability to reconstruct better houses has meant living in tin houses for many years. Dam victims in Ntuzuma are in a different situation from dam victims in Dinabakubo. In Ntuzuma, the community representatives serve the interests of all members of the community, irrespective of their historical background and individual needs. As a mixed community comprising of households from different historical backgrounds, local leaders do not pay special attention to a particular group of people (such as the dam relocatees).

### **7.3.3 Confronting loss of access to common property environmental resources**

In the case of Inanda dam relocatees, common property resources include all those resources that were formerly obtained free of charge. These included river water, land, firewood, medicinal plants, etc. Focus here is placed on land, firewood and water. As explained in the previous chapter, relocated families lack access to a wide range of choices since common property resources in the relocation areas are either non-existent or insufficient or are in bad condition. Relocated families also perceive the benefits of having access to the highest level of service. Thus there has been shift by families from demanding common property resources, to demanding resources that can only be obtained by spending money on them. As explained in the previous chapter, this pattern is also evident in the Imbozamo (the control area), although there is a wider set of options here.

#### **7.3.3.1 Land**

Table 7.2 below provides a qualitative description of the current condition of access to land for the three relocation study areas. At the present time, Dinabakubo and Amatikwe are relatively better off. In Table 7.2 below, the access to land of all households interviewed in these areas falls into the category of “acceptable”. The ratings are derived from a combination of their opinions and the researcher’s observations as to the size of available land in the relocation areas. The reason they are not considered to have good or excellent access to land is because they still feel that the land they have now is far smaller than the land they had prior to their displacement. Also, the land families own in the control area seems to be far bigger than the land owned by resettlers in the relocation areas.

**Table 7. 2 Qualitative comparison of the three relocation study areas in terms of access to land**

	<b>Dinabakubo households</b>	<b>Ntuzuma households</b>	<b>Amatikwe households</b>	<b>Total Number of households</b>
Excellent	0	0	0	0
Good	0	0	0	0
Acceptable	4	0	3	7
Bad	0	0	0	0
Very bad	0	4	0	4

In dealing with issues of landlessness, a community that has been particularly active is Dinabakubo. As explained in the background chapter, this community was provided with compensatory land to settle on. Because of the temporary nature of “tin” houses families were forced to crowd in one area, since they were not allowed to spread and occupy the other larger portion of compensatory land (for more detail, see section 7.4 on constraints to adaptation).

It must be noted that, the issue of land ownership in Dinabakubo is complex since there are many stakeholders who have an interest in the land. However, only as recently as the year 2000, have the Dinabakubo people successfully managed to gain full ownership of this highly disputed land. Now the community has got title deeds, with each family owning up to 450m<sup>2</sup> of land (Mr. Meyiwa, pers. comm., 10 March 2001). This is a major shift from one cultural practice to the other. Families have always wanted to move away from communal means of land ownership, a method which characterised their former areas.

According to Moos (1986), getting rid of certain traits because they go too much against the culture in the new areas is a necessary strategy for effective adaptation. Moos believes that this behaviour helps speed up the adaptation process.

There are specific reasons however why Dinabakubo insisted on transformation of land tenure. This could be linked to the pain they suffered when the land they had occupied for many years was alienated for dam construction. They did not own it, nor did they have any legal rights to the land. To avoid further violation of their rights therefore they feel the best way is to upgrade their security of tenure. In other words families are suspicious that even worse may be yet to come, for example the possibility of another forced removal since they are informal dwellers.

Also, in some respects the culture in the new areas is different from the culture in the original areas. The resettled community is surrounded by the formal settlements of Molweni Township and Waterfall suburb. Yet the community according to the initial plans by resettlement authorities was to be left in its rural form thus enabling families to continue practising a rural culture (Mr. Meyiwa, pers. comm., 10 March 2001). This idea was simply not practical in the new area. Households feel it was imposed on the people of Dinabakubo. Continuing to practise a completely rural culture would not work for them. Thus to transform the settlement into a formal township is a move towards getting rid of certain traits so as to adapt to the culture in the new area.

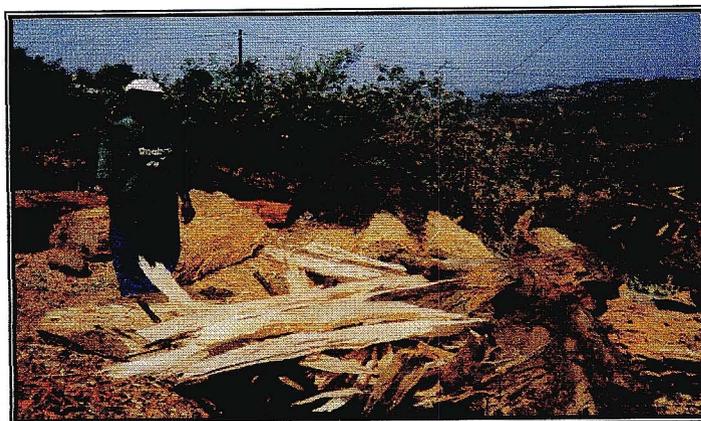
Mr Meyiwa describes the Dinabakubo community as a “Gaza strip” with Israel being the white owned land of Waterfall and Palestine being the black occupied land of Molweni. This follows after a white businessman owning many shop complexes in Waterfall wanted to buy the Dinabakubo compensatory land for his own purposes. He wanted to buy land from the Ngcolosi Inkosi to build houses and rent them at higher prices. This further explains the reason behind community’s insistence on obtaining land security. But as Mr Meyiwa sees it:

The problem the Dinabakubo people are facing is that they are new comers and yet they are demanding to have title deeds when the original people of Molweni do not have them. Also the Outer West Local Council is ignoring our needs and argues that the community wants things done their own way (Mr. Meyiwa, pers. comm., 10 March 2001).

These constraints are discussed later in the chapter.

### **6.3.3.2 Firewood**

Firewood in relocation areas is non-existent. As a result families use either paraffin or electricity. The only source of firewood in Dinabakubo is a nearby farmer who occasionally delivers huge woodlots in the village for those individuals who can afford to chop these into small pieces. In other words families have not been able to restore firewood, and must rely on other sources of energy. The photograph below shows Mr Gumede of Dinabakubo collecting the woodlots.



**Plate 7.2 Mr Gumede collecting some pieces of woodlots as the only source of firewood in Dinabakubo**

In Matikwe, all households interviewed have electricity in their houses. In Ntuzuma, those who do not have electricity (except for the Thabede family) are in this position because the main switch was switched off for various reasons, including inability to pay or illegal connection. The Thabede family have never had electricity because of inability to pay and also that they have always regarded the “tin” house as a temporary shelter. Those who do not have electricity use paraffin as the major source of energy. This is true for many households in Dinabakubo. Families interviewed here are relying solely on paraffin as their only source of energy. Through funds initiated by the Joint Service Board (JSB), electricity infrastructure exists in Dinabakub. However families still do not have in-house electricity. The main reasons for this condition are outlined in section 7.4.

Table 7.3 provides a qualitative description of the current condition in terms of access to energy for the three study areas. Again, the ratings are derived from a combination of interviews, opinions and observation.

**Table 7. 3 Comparison of the three relocation areas in terms of access to energy**

	<b>Dinabakubo households</b>	<b>Ntuzuma households</b>	<b>Amatikwe households</b>	<b>Total Number of households</b>
Excellent	0	0	0	0
Good	0	2	3	5
Acceptable	0	0	0	0
Bad	4	2	0	6
Very bad	0	0	0	0

The table shows that all households in Matikwe and some in Ntuzuma are relatively better off while all those in Dinabakubo and some in Ntuzuma are relatively worse off in terms of

access to an acceptable energy resource. For families in Dinabakubo, the relocation area has meant a shift from using firewood as the major and reliable source of energy to relying on paraffin as the only reliable source of energy. However, the community through its development committee's integrated development approach is addressing this issue.

### 7.3.3.3 Water

Part of government support for resettlement, as explained in section 7.2, was to provide water to those areas that did not have water. Dinabakubo community was provided with four communal standpipes immediately on arrival. The community over the years made attempts to connect water pipes from the four communal standpipes to family yards. This in other words, was an attempt to improve living conditions by upgrading the service to the highest level they could afford. Unfortunately, this was done illegally since no agreement was reached between the local authorities and the community. Perhaps this is one reason why water was shut down in this community. Plate 7.3 shows the women in Dinabakubo using water from the unprotected natural spring. This is after the shutting down of piped water in this community. While the women use it to wash clothes, however some families use it for drinking. This is the serious health hazard since the water is dirty.



**Plate 7.3 Women in Dinabakubo doing washing in the open but dirty spring**

In Matikwe, families also use communal standpipes. Some however have installed water pipes inside their yards. It appears that having water in individual households in relocation areas is a dream of all households. The main reason for this dream is to secure access to such a scarce resource by avoiding competition. Because of constraints discussed in

section 7.4, however, not all families can afford a yard or house installation. Table 7.4 below provides a qualitative description of the current condition in terms of access to water in the three study areas. This table makes it clear that Dinabakubo is currently worse off with respect to access to water.

**Table 7. 4 Comparison of the three relocation areas in terms of access to water**

	Dinabakubo households	Ntuzuma households	Amatikwe households	Total Number of households
Excellent	0	0	0	0
Good	0	0	0	0
Acceptable	0	4	3	7
Bad	0	0	0	0
Very bad	4	0	0	4

In the control area, Imbozamo, some families have recently made attempts to have piped water installed in their yards. However many households still use communal sources. They still use water from the Mngeni River, its tributaries and springs (Mr. Mtolo, pers. comm., 20 March 2001). In other words, as explained in the previous chapter, families have a range of choices available to them.

#### 7.3.4 Restoring food security

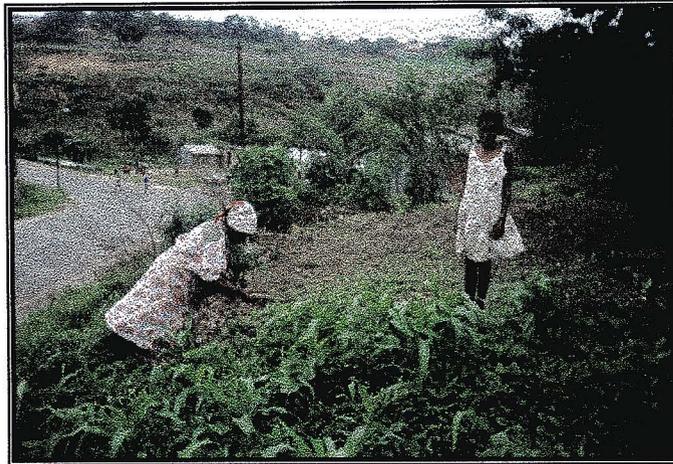
Loss of access to land has meant a shift for all families from relying strongly on subsistence farming to engagement in formal wage employment or the informal sector of the economy, as well as on social grants. Some families however are still practising some form of rural livelihood generating strategy. This is true for the Nxumalo, Mntambo and Thabede families in Ntuzuma G who still cultivate land. They still plant such crops as *Amadumbe*, maize, pumpkins, green beans etc. This strategy of course depends on access to some land, however small.

Ms Mntambo says that she has always regarded soil as the most valuable resource. The practice of cultivating land has always formed part of her culture and is in her blood.

This is just to remind myself that there is life in soil, however the land is small. In fact it is nothing, but cultivating land is part of our culture, it is part of us, we cannot just do away with it. As long as we still have access to these smaller plots, and no rules and regulations against such a practice in

this area, we will never stop cultivating land (Ms. Mntambo, pers. comm., 02 March 2001).

When the interview session was over, Ms Mntambo changed her clothes, took her hoe and went to the maize field about 4 metres away from her *Masakhisane* house and started removing some weeds.



**Plate 7.4 Mrs Mntambo and her daughter cultivating small plot.**

While Mrs Mntambo and a few others have access to these small plots, there was no evidence of this for most householders in this Ntuzuma G community. This is a misfortune that the two hundred former members of the AmaQadi tribe encountered in this area.

The researcher also observed this kind of situation in Dinabakubo. Here there was also evidence of maize crops in a few households. But this strategy is most evident in Matikwe, where the land shortage is a little less acute. In relation to other relocation areas, more households in Matikwe cultivate land. There was however no evidence of livestock, at least for the households visited. Although this does not compare favourably with the situation in the original areas, households in Matikwe however seem to be better off than households in Ntuzuma and in Dinabakubo in terms of their ability to adopt this “rural” coping strategy and to support their food security.

### **7.3.5 Rebuilding housing**

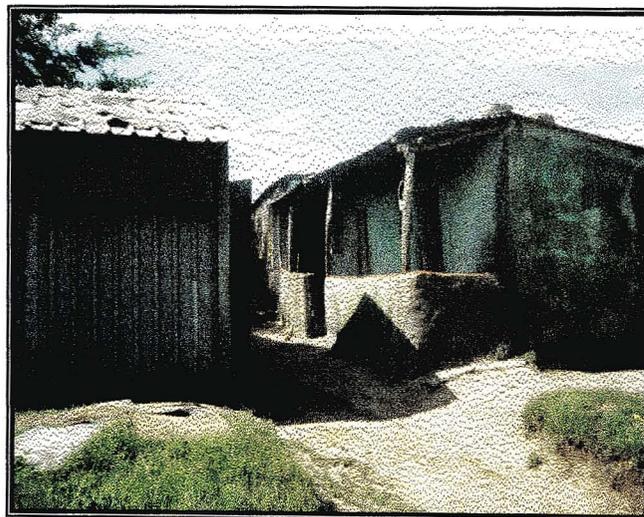
All the displaced families lost housing. For some displacees, the loss of housing and shelter was only temporary. Other relocatees however have been compelled to live in temporary

relocation shelters, which were used as a fallback solution. These “tins” however have turned out to be their permanent homes.

Due to the extended families and the unhealthy environmental conditions in the corrugated iron tin houses and plastic tents however, a number of housing development efforts were initiated in the Dinabakubo community. This includes the building of samples of formal houses by developers - a project initiated by the Ngcolosi chief to express his concerns about the slow adaptation of “his people” in this area. For various reasons discussed in section 7.4 the community destroyed these sample houses. It must be noted that this formed part of the attempts to upgrade this community to a formal township.

Only a very few householders have built well-structured formal houses made of blocks, cement and corrugated iron. It therefore did not surprise the researcher to hear the name “tin town” being used by outsiders. The settlement is not well ordered and as such shares many characteristics with the illegal squatter settlements.

The majority of households in Dinabakubo supplemented temporary shelters with additional houses immediately on arrival. These however were and are shack-like additional houses made of mud and corrugated iron. Plate 7.5 below shows an example of such an initiative.



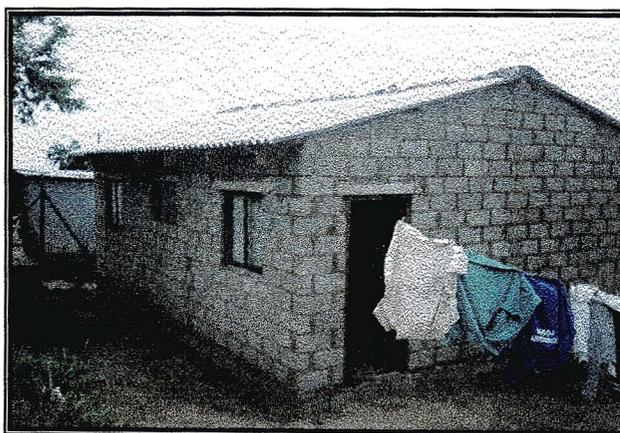
**Plate 7.5 A “tin” house supplemented with a 3-room mud house in Dinabakubo**

In Ntuzuma G, some households who were losers in the government compensatory housing scheme have recently started putting up formal housing structures in their yards.

This is evident for the Thabede and Mntambo households who have joined the *Masakhisane* housing scheme in the late 1990s. According to Mrs Mntambo, meetings were called in to discuss housing problems in the community. Developers were called in, and they were all too expensive until *Masakhisane* scheme appeared. While households displaced by the dam are using this scheme, it was however initiated to assist everyone in Ntuzuma G. The scheme is called “The Housing Scheme for People Living in Informal Settlements” and is known in the community as *Umfelandawonye*. This is a privately owned scheme, not a government project.

Householders wanting to join the scheme pay 50c on a daily basis until they reach the total of R500. Once the total amount has been reached, it therefore serves as security, and on the basis of it, a household is given a loan of R10 000. The organisation administering the scheme buys the material (cement, blocks, windows, doors, asbestos/zink). A four-room house with the toilet and bathroom inside is then built. The house is quickly built and finished by other households who are members of the scheme and who are in need of housing. The household is then obliged to pay R120 on a monthly basis as the means by which it is repaying the loan (Ms. Mntambo, pers. comm., 19 December 2000).

Inherent in this type of housing scheme is the belief that people can do something together. Participation of households themselves in the construction process empowers them and creates a sense of belonging. This constitutes a group coping strategy, and may help improve the quality of life of some members.



**Plate 7.6** The Thabede family in Ntuzuma G has now moved to the *Masakhisane* house

Families like this have bridged the gap from a densely populated tin house to a less crowded four-room *Masakhisane* house. This is true for Mr Thabede who is looking forward to installing electricity once his *Masakhisane* house is completed.

Households in Matikwe seem to have adapted well to this area. This could among other things be due to the fact that their movement to this area was voluntary (see Chapter Four for more details). Of the three households visited in Matikwe, each homestead has more than one house. These are houses, which householders built on their own from their own resources.

Fredville is a resettlement area that has been plagued by violence. Of those who survived and resisted further relocation (because of violence) in Fredville, there is evidence of families who have battled to reconstruct their houses. Some families are still living in tin houses that were supposed to be temporary shelters. Others however have managed to build well-designed houses made of concrete, blocks and corrugated iron.

From the discussion in this section certain patterns can be seen with regards to reconstructing loss of access to the tangible assets. The following table provides a summary of the current situation of the three relocation areas in terms of access to water, energy resources, land and housing.

**Table 7.5 Qualitative comparison of eleven households in Dinababubo (D), Matikwe (M) and Ntuzuma (N)**

Categories	Variables				Number of households appearing in categories
	Housing	Land	Water	Energy	
Excellent					0
Good				M1, M2, M3, N2, N4	5
Acceptable	N1, N2, M1, M2, M3	M1, M2, M3, D1, D2, D3, D4,	M1, M2, M3, N1, N2, N3, N4		19
Bad	D1, D2, D3, D4, N3, N4			D1, D2, D3, D4, N1, N3	12
Very bad		N1, N2, N3, N4	D1, D2, D3, D4,		8

The table combines the information presented in this chapter, into one table. The ranking is based on a combination of interview material and observation.

According to the categories used in table 7.5 there is still much that needs to be done, as most households are still falling between the *acceptable* and *very bad* categories. A number of constraints exist that have always hindered and are still preventing these families moving to the *good* and *excellent* positions. The following section examines some of these constraints to effective adaptation in the relocation areas.

#### **7.4 CONSTRAINTS TO ADAPTATION**

From the discussion in the previous section it appears that a number of successes have been achieved in the adaptation process of the resettled people. However the process has not been an easy one for most households in these communities. Various factors hinder effective adaptation. While the previous section placed more focus on reconstruction successes, this section uncovers and discusses those forces, which interrupt the smooth flow of the adaptation process. In other words it focuses on adaptation failures.

While all households visited seem to be eager to move on with their lives, a series of interlinked socio-economic and biophysical factors prevent them from effectively adapting in relocation areas. Constraints are both internal and external. Table 7.6 below gives the summary of the major constraints. These are further elaborated in the following subsections.

The combination of the seven major internal and external constraints discussed in Table 7.6 below has hindered or slowed down the process of adaptation in the relocation areas. These constraints and challenges therefore raise many questions of justice. Given the interrelatedness of all these constraints, it may not be easy to tell which constraint has played the major role in slowing down the adaptation process in any particular case.

Table 7.6: Major constraints to effective adaptation across the relocation areas

Constraint	Explanation of constraint	Relocation Areas
<b>Rules and regulations</b>	<ul style="list-style-type: none"> <li>• Prohibit families from undertaking any unplanned development</li> <li>• No development since the area was surveyed for formal development</li> <li>• Area was going to be transformed into a formal Township</li> <li>• Any individual households' attempts to improve living conditions at the current site done at own risk</li> </ul>	Dinabakubo
<b>Low level of socio-economic status</b>	<ul style="list-style-type: none"> <li>• Disempowerment and inability to influence decisions and speed up reconstructive initiatives</li> <li>• Difficulty in reconstructing housing, installing piped water, or else moving elsewhere, where there are opportunities for a better quality of life</li> </ul>	Dinabakubo, Ntuzuma G, Matikwe and Fredville
<b>Strong community organization</b>	<ul style="list-style-type: none"> <li>• Overrepresentation</li> <li>• The “do it my way” attitude</li> <li>• No better life for some without a better life for all</li> <li>• Retaliate against a “top-down” approach to development in their community</li> <li>• Threat to the local authorities or service providers</li> </ul>	Dinabakubo
<b>Weak community organization</b>	<ul style="list-style-type: none"> <li>• Poor representation</li> <li>• Meetings for the dam victims of Amaqadi tribe held separately from the meetings of dam victims of Amaphephetho tribe. This makes their demands or requests weak.</li> </ul>	Ntuzuma G
<b>Unfavourable urban biophysical environment</b>	<ul style="list-style-type: none"> <li>• Inadequate land, so cannot cultivate and obtain fresh vegetables and fruits</li> <li>• Inadequate land, so cannot own livestock</li> <li>• Inadequate land, so cannot build adequate houses to accommodate extended families</li> <li>• No river or spring water, so compromise using dirty water when water provision has been stopped for certain reasons</li> </ul>	Dinabakubo and Ntuzuma G  Dinabakubo and Ntuzuma G  Dinabakubo
<b>Conflict in relocation areas</b>	<ul style="list-style-type: none"> <li>• Has delayed the development of compensatory land</li> <li>• Has led to further migration of some dam victims as a result of violence in 1995</li> <li>• Has led some households to stop breeding livestock, owning chickens, pets etc.</li> <li>• Creation of lack of security: insecurity</li> </ul>	Dinabakubo  Fredville  All
<b>Lack of transparency and accountability of development schemes</b>	<ul style="list-style-type: none"> <li>• Mistrust of Masakhisane housing scheme</li> <li>• Some families do not join, therefore choose to stay on in the “tins”</li> </ul>	Ntuzuma G and Dinabakubo

The subsequent subsections provide an elaboration of Table 7.6. Each constraint as outlined in the table is briefly discussed.

#### **7.4.1 Rules and regulations**

Dinabakubo is the only community, which was subjected to the stipulated rule of “do not develop the land in any manner”. They were not allowed to plant any trees, build any houses, or cultivate the small plots of land. The settlement was to be temporary because of the compensatory land promised. This is understandable because, had families persisted in putting up their own structures, the community would at a later stage have incurred many costs when the plan of upgrading the area to a formal township was implemented. What turns these rules and regulations into a constraint is that the plan was never implemented and yet people were still prohibited to develop the land in any manner. In other words they would at a later stage be forced to destroy what was done informally in order to make way for new formal structures, a drainage system, road infrastructure etc. The question however is how long communities can be expected to wait before any promises are met. The intervention, as explained in the previous section, to put up houses to supplement the “tins” and to extend communal standpipes to individual household yards were a direct response to poor living conditions in the area.

#### **7.4.2 Low level of socio-economic status**

Such services as formal houses, piped water in individual households and an electricity supply are more appropriate for the new areas than homesteads, river water and firewood. The ability to obtain these services however is partly a function of access to human and financial resources. This is a major constraint to all households visited.

This situation does prevail in Dinabakubo. However the conclusion that low socio-economic status is the major constraint in this community may lack justification. This is because rules and regulations in Dinabakubo seem to have dominated any other constraints. However, if families had sufficient resources to draw from, they would consider relocating and reconstructing their quality of life elsewhere. Thus the low level of socio-economic status has “trapped” people in a condition where progress has been slow.

Because of the non-existence of such rules and regulations in Ntuzuma G, a conclusion can be reached that the factor of low socio-economic status has had a negative bearing on effective adaptation of families in this community. Households still trapped in the “take care of me” attitude, were encountered in this community.

Although water is available in Ntuzuma, the communal standpipes however are subject to abuse and many families such as the Thabede family believe that communal standpipes will at some time in future be shut down. Mr Thabede says he is considering installing water in his *Masakhisane* house. But, this family does not have sufficient money to do that as it depends solely on a government pension of R540 per month.

As a result of abuse, and the fact that Durban Metro wants everyone to have yard connection, I really would like to have water installed into my house, but I cannot afford an installation fee of R1 900 (Mr. Thabede, pers. comm., 19 December 2000).

#### **7.4.3 Strong community organization**

While in section 7.3, a high level of organization in the community is associated with progress and control, it is important to acknowledge that this integration also triggers many constraints to the process of contested adaptation. These can be associated with “over-representation” (a situation whereby a group has representatives who strongly defend the group’s interests) and the emergence of conflicted power relations. Given the fact that these communities are not completely independent, but are fairly reliant on outside assistance, this creates a clash over the strategies and goals between the communities and those allocating resources.

Dinabakubo community is the prime example. This community has always put forward the argument that it cannot allow any formal development initiatives to be undertaken until such time as all community members have title deeds. The community cannot allow development in land they do not own. While rules and regulations prevented families from developing the land, the community itself was also against any developments that were going to deprive some while uplifting a few in the community.

As explained in the previous section, Dinabakubo is an integrated community. All households are from the dam area and thus share the same pain of loss. As such they want to share the same fair benefits of development. The community always wanted development for all, rather than development for some. While a few households would benefit from the development initiative by the KwaNgcolosi Inkosi and property developers, the majority of households who could not afford to pay bond prices would be left out. This therefore explains why the community went so far as to destroy the sample houses.

The community has also been cautious about entering into any loan scheme for developing say housing, without full understanding of the implication of such an act. As a result the community is very careful in assessing developers who approach them with the aim of delivering something to them. This was strongly emphasised by Mr Msomi who is a member of the Development committee. Mr Msomi said that:

When we were told to move, we did not take details of all those who told us to move, we did not sign any agreements about all the promises that were made to us. We did not take their names, the organisations they came from and their portfolios. We were silly, son. This now has a negative impact. Whichever department we approach for help, we are required to provide evidence from written documents about our problem. But we have no written evidence. That has taught us a lesson (Mr. Msomi, pers. comm., 08 January 2001).

Evident in this quote is the fact that the community has learnt from experience that passive participation gives them no progress. The researcher however argues that, while this degree of enlightenment may be good since it avoids exploitation, it can on the other hand be a threat to those delivering services. They many easily interpret it as a “do it my own way attitude”. The community has perhaps moved to a position of extreme caution, which is becoming negative.

#### **7.4.4 Weak community organization**

The argument in the previous subsection that a well organised and fully represented community like Dinabakubo slows down the process of adaptation does not mean to say that, a weak community is desirable. The weaker the community structures, the more

difficult it is to challenge the status quo. This is mainly manifest in Ntuzuma G, in cases where this community attempts to adopt a group strategy of adaptation.

When attempting to address the injustices of the dam, families still use their previous affiliations to identify themselves. They use such affiliations as Ngcolosi, Maphephetho, Maqadi people. The Maqadis fight for the rights of Maqadis only, and so on. In Ntuzuma people's goals are different, some want compensation money, others want proper houses, etc. This therefore impacts negatively on the outcome of their struggles. This is in contrast to the communities in Dinabakubo, where the struggle is a united one, "development for all".

In Ntuzuma G, Mrs Mntambo's daughter relates most of the problems experienced by the households relocated by the dam to the lack of their fair representation in the local structures (Ms. Mntambo, pers. comm., 02 March 2001). She is concerned that leaders in Ntuzuma are ignoring the interests and concerns of the relocated people. When they address problems they address them in general. No specific attention is placed on people who are victims of the dam. The failure by local leaders to achieve benefits for dam victims from the democratic government's housing scheme is regarded by Ms Mntambo as an unjust practice which deprives them of a better quality of life. This from her point of view is as a result of neglect, lack of concern and unwillingness to assist on the part of the local authorities. Ms Blose also witnessed to this situation and stressed that her family had never attempted to improve their tin house but had always waited for the promised government two-room house in the Bester area, a promise that, however, has never been fulfilled.

From the point of view of these two women, victims of Inanda dam have no representatives of their own. They are not optimistic that an area councillor, a person who does not understand their plight, will represent their concerns.

#### **7.4.5 Unfavourable urban biophysical environment**

Families still want to continue practising a rural livelihood generation strategy. They have however been forced to move from a completely rural to an urban or peri-urban culture. This is a constraint because the evidence of those who are still cultivating land indicates that they still value subsistence farming. The low socio-economic level of most families

means that they are marginalized. They cannot fully make transition to an urban lifestyle. Having no access to adequate land is a constraint to rebuilding of their quality of life.

With the exception of the Dinabakubo compensatory land, land is very small in size and is not adequate to allow families to obtain sufficient yields to meaningfully supplement money income derived from formal and or self/ informal employment. Because of this insufficient produce, the emphasis now is no longer placed on maintaining food security and achieving higher yields, the surplus of which can further be sold for cash as in the past. Instead, food has to be purchased.

Those householders who still own livestock are constrained by high densities and inadequate land. This has led such households as the Msomi family to end up planning to sell all their livestock. In cases where water is simply switched off for certain reasons, such as in Dinabakubo, families have few choices with regards to getting clean water. In these areas there are neither clean springs nor rivers in close proximity.

#### **7.4.6 Conflict in relocation areas**

Conflict in relocation areas has been in some cases, very serious. The ideology that “good fences make good neighbours” is deep-rooted in the culture of the relocation areas. This however is against the culture of the dam victims and as such it is a constraint to their attempts to attain good quality of life. Examples are given below.

Because of insufficient grazing land in the relocation area of Dinabakubo, there is conflict between subsistence livestock owners and neighbouring white commercial farmers over grazing. Families reported cases whereby the neighbouring commercial farmers have locked up their livestock, in case these ever stepped into the farmers’ land. Farmers demand large sums of money to be paid for the release of livestock (Mr. Jali, pers. comm., 12 December 2000). Those householders who cannot afford to pay this money lose their livestock, since the livestock (mainly cattle) is never released. As noted, families in Dinabakubo are now contemplating selling all their livestock.

Families in all relocation areas including those in the Matikwe settlement must think twice about owning domestic animals such as dogs, cats, chickens, etc. This is to avoid possible

conflict between neighbours. While families have no physical fences, a “good fence” simply means getting rid of all those animals that are likely to trigger conflict.

There is also conflict over resources such as land. As is detailed in Chapter Four, for many years there has been conflict over the ownership, control and development of compensatory land in Dinabakubo. It appears that, this history of controversy has delayed the development process in this community. It is explained in the preceding section that the reconstructive initiatives in Dinabakubo have been initiated by various bodies, which all seem to have claimed control and ownership of compensatory land. The people who regard themselves as the real owners of the land on the other hand have opposed all these initiatives. Such conflict has extended over many years and has delayed the adaptation process of households in this relocation area.

Water has been another source of contention in Dinabakubo. Mr Meyiwa regards the water stoppage, as a political issue. It is in his view, an attempt to punish the community for not having voted for a certain political party, which did not win the November 2000 local government elections. A few weeks before the 2000 local government elections, the Outer West Local Council decided to close the last remaining standpipe in the community hall. Residents view this cynically in light of the announcement by the political parties in the area, the Democratic Alliance (DA) and the African National Congress (ANC) about their intention to deliver basic services free of charge to their voters.

The dam victims in Fredville also have a unique experience, which to some extent distinguishes them from dam victims in other relocation areas. From the point of view of Ms Khoma of Fredville, households lived a better life prior to the year 1995. Political violence in the area during this year however forced many of them to leave for unknown areas. This was evident when the researcher visited the Fredville “tin town”.

A clash between the two political parties (ANC and IFP) led the dam victims to be victims of further relocation in order to save their lives. This clash was due to the fact that, the dam victims belonged to a political party unpopular in the area (Ms. Khoma, pers. comm., 15 March 2001). Political conflict between the insiders and the outsiders therefore served as a major force against effective adaptation of the families relocated to Fredville.

The researcher observed vacant walls as evidence of the remains of houses that these households had inhabited. The experience of these households to some extent resembles that of households who moved to the upper areas of their tribal authority jurisdictions in the late 1970s. These households in the upper areas were not accepted in these areas, thereby forcing them to relocate further to such areas as Matikwe.

#### **7.4.7 Lack of transparency and accountability of development schemes initiated by voluntary organizations**

In Ntuzuma G, those households who have joined the *Masakhisane* housing scheme seem to be better off than other households still living in tin houses. They however are experiencing many problems with the scheme. The problems include such issues as cheating and lack of transparency on the part of those who administer the scheme. Evidence shows that before households join the scheme they are made to believe that their monthly contribution is just temporary since the “government R15 000 subsidy” is going to cover all costs of the loan at a later but unknown stage. Households realise that such a thing as government subsidy does not exist, only when they have gone too far and are already part of the scheme. In fact they realise too late that it is their responsibility to repay the loan once the house is complete and inhabited.

The kind of cheating reported about the scheme resembles the initial promises made to people about the dam. They report that they were all promised four-room houses and sufficient land for grazing and cultivation in the relocation areas. This however did not materialise. This led many households to agree to relocate. In other words the experience of many households has been to be continually cheated and betrayed. Feelings of betrayal and anger about marginalisation and even dehumanisation are inevitable.

During the researcher’s visit to the Thabede family in Ntuzuma, the family was living in fear of being chased out of its *Masakhisane* house. This followed a recent visit by the housing scheme administrators with complaints. They were complaining about Mr Thabede’s failure to continue paying the monthly fees of R120. It appears that the main reason for the family not paying is that it is protesting against the lack of accountability of the scheme. Mr Thabede stopped paying on the grounds that the house is not complete and that the family finds itself having to purchase material, which in fact is supposed to be

provided by the scheme. From this family's point of view, the scheme is not trustworthy (Mr. Thabede, pers. comm., 19 December 2000).

## **7.5 CONCLUSION**

The discussion in this chapter focussed mainly on adaptation and constraints to adaptation. Having examined the individual family and community adjustment strategies, it appears that such strategies are a direct response to a lost good quality of life described in Chapter Six. They are attempts to reconstruct the quality of life that was lost due to dam construction. While the state made attempts to assist families in the resettlement areas, the results of the flawed nature of this support are still evident thirteen years since the dam was completed.

Various forces have contributed to the slowing down of the adaptation process for some families. While some of these forces are not directly related to the dam and the inadequacy of state support mechanisms, they however raise many questions as to what would have happened had the dam not triggered displacement. Had displacement and resettlement been voluntary and supported, families would have found it easier to adapt. Such questions need answers, more especially with regard to those families who find it hardest to adapt because of constraints discussed in this chapter. While the next chapter provides an overall conclusion to this thesis, it also makes some recommendations. These recommendations are based on the discussion in the previous chapter as well as this chapter.

## **CHAPTER EIGHT**

### **CONCLUSION AND RECOMMENDATIONS**

#### **8.1 INTRODUCTION**

The aim of this chapter is twofold. It aims to summarize the findings of the study and also provides some recommendations for best practice. These are suggestions for rectifying the past injustices created by the Inanda dam. While these recommendations are based on the findings from the Inanda dam case study they can however be applied to other similar case studies where the impacts of inadequately compensated, or unmitigated displacement and resettlement due to large dams are still felt.

#### **8.2 SUMMARY OF THE MAIN FINDINGS**

Since many studies discuss the immediate impacts of large dams on resettled populations, this study placed more focus on the long-term impacts. The aim of the study was twofold. The first goal was to understand how the Inanda dam changed the quality of life of families it displaced and resettled. Second, it aimed to provide an understanding of families' adaptation to life and constraints to effective adaptation in the relocation areas. Four objectives were identified to achieve the aim. These were:

- To examine the material impacts of the dam by comparing the situation before displacement and with that in resettlement areas.
- To determine resettlers' feelings and attitudes on how their Quality of Life (QOL) has changed as a result of the relocation.
- To investigate how families have adapted in the relocation areas.
- To identify constraints to effective adaptation.

While Chapter One introduced the thesis, Chapters Two and Three provided a context and conceptual models to the study. In Chapter Two, by reviewing the history of dams, debates surrounding their impacts and the reaction against them were discussed. The Inanda dam

case study was placed in the context of the debate. Chapter Three provided a number of conceptual tools and models. These included the theories of social and environmental justice, the concepts of quality of life as well, resettlement and adaptation models. Cernea's "Risk and Reconstruction" model was of particular importance. The importance of these tools has been realized in Chapters Six and Seven. These were used to gather primary data and to interpret and understand the findings of the study.

Chapter Four provided a background to the case study. Issues of planning and implementation with regards to the Inanda dam were discussed and the history of the three main study areas and control area introduced. The researcher's aim here was to introduce the reader to the origin of some of the problems and injustices discussed later. Chapter Five provided the methodology. Here the type of data, methods of data collection and analysis were discussed. The qualitative research design adopted was informed by the research objectives. It should be noted that one of the guiding tools in the research design exercise was the broad nature of the concept of Quality of Life (QOL).

Chapters Six and Seven provided the reader with the description and discussion of the results. While the discussion in Chapter Six accomplished the first two objectives of the study, Chapter Seven aimed to arrive at the third and fourth objectives. Below is a summary of the key findings.

### **8.2.1 Outline of the key findings**

The Inanda dam has had both direct and indirect positive and negative impacts. The direct impacts as discussed in Chapter Six relate to the impact of uprooting households from their original areas of residence. These involuntary displacements meant a major disturbance in the manner households generated their livelihood. Loss of access to common property resources of river water, communal land, natural forests as well as the well established social networks are good examples of direct impacts. The socio-economic and biophysical environmental dynamics in the areas of relocation raise the question: had the dam not displaced people, would they find themselves in such situations? The findings of this study strongly suggest that the livelihoods of households were severely disrupted and remain so to this date.

Inanda dam was built in the apartheid era. This is a period where the protection of human rights (the rights of the non-whites in particular) was not regarded as a priority. The displaced communities happened to be in an unfortunate position of belonging to the groups that were underrepresented in the decision-making processes. The impacts of the Inanda dam do resemble the impacts of dams in other countries like China, India, etc. However, the fact that it was built during the apartheid period makes it one of the many disputed and difficult issues to deal with in post-apartheid South Africa. The poor mechanisms that the apartheid state undertook to counteract social hazards have resulted in unfavourable living conditions of the displaced families and these have persisted over a period of more than ten years.

Goods such as water, energy resources and housing are basic needs for human survival. To a certain extent, some of such goods were provided in the resettlement areas and this should have (in principle) assisted the displaced people and sped up the adaptation process. The problem in the Inanda dam case was exacerbated by the manner in which resources were allocated. It is not clear as to what criteria the displacement administrators used for differential treatment of relocatees in terms of resource allocation. While all people lost land, not all were provided with compensatory land. Also, while all people lost housing not all were provided with compensatory housing. Even where this compensation was provided, the activity was handled so badly that some people were left marginalized. This is the condition, which all relocatees still feel (a sense of marginalisation and abandonment).

This study reveals that all families lost access to common property resources of river water, firewood and land. It is true that the South African society is experiencing major shifts towards more convenient means of accessing such resources as services are improved. Electricity is increasingly becoming more popular than firewood, and piped water is viewed as preferable to river water. Access to the highest levels of service, however, does not always guarantee that beneficiaries can afford them. In other words, one cannot simply make the argument that by bringing dam relocatees to areas with these services, this improved their quality of life. The low socio-economic status of relocatees means that not everyone can access services like water and electricity. Yet they have no alternatives.

The fact is that people were moved from areas where these resources were available free of charge. In the relocation areas, however, people have to pay for services, and in general if they do not pay the services are cut off and stopped. Since land for subsistence farming is not adequate, families can no longer supplement cash income with agricultural produce, but must spend more to purchase foodstuffs. In other words, it is only the “fittest” households that survive in the relocation areas. Families fall into two categories. One, households have resources of money and thereby cope well with the challenges. Two, households have no money meaning that families will accumulate stress and experience a decline in their quality of life. The phrase “dam victims” best described these households.

The results of the study show widespread bitterness and alienation from the state and society. Households see the dam operating and they believe it is making money, supporting millions of residents in Durban and the surrounding areas. They themselves however are battling to reconstruct their quality of life. This is a further addition to the pain they have suffered and are still suffering. In other words an argument can be made about the continuous victimization of relocatees. Lack of life improvement accompanied by a continuous feeling of loss and neglect has had many psychological impacts all of which are negative in nature.

The feelings of loss are expressed not only around the issues of common property resources, but also in the area of housing. While loss of access to other goods and services has caused much frustration on the part of dam victims, the severe impact on housing is mostly remarkable. These landscapes (inside the Durban Unicity) are still marked by corrugated iron huts or “tin towns”. Those occupying the “tin towns” will never regard the city as home. The poor living conditions in these huts pose questions about the environmental rights of these people. Although people’s rights were violated by the flawed logic of the past apartheid planning, the reality is that, these people are not going to continue pointing fingers at the past government. It is now the duty of the present state to correct the sins of the past.

The thesis has allowed a comparison to be made between three groups of dam relocatees, with three different histories, community structures and so on. These are relocatees in Dinabakubo community situated near Hillcrest south of the Inanda dam; Ntuzuma G; and Matikwe (both situated west of the Inanda dam near Phoenix Industrial). While there are

some similarities in the experiences of families in all the relocation areas, differences also prevail.

Dinabakubo is the worst relocation area in terms of the indicator variables used in the study. In general, families here do not have clean water, acceptable housing and electricity. However the community is better off in terms of access to land. This condition however is only recent, i.e. after the households have been given title deeds in 2000. Families however are still not happy since, they do not yet have all the goods and services necessary to achieve a better quality of life and also they have not yet moved to their new land.

Some families in Ntuzuma G are better off in terms of access to such services as potable water, electricity and housing. However, for those who still do not have access to these goods and services for various reasons, a condition like this is still significant in the context of the current debates about the impacts of forced removal to make way for large dams.

Families in Amatikwe are relatively better off in terms of all the indicators used in this study. The families interviewed in this area left as early as late 1970s. In other words, their immediate response allowed them to make necessary plans for relocation.

### **8.3 RECOMMENDATIONS**

South Africa has been very active (at least during the past six years) in terms of protecting human rights. It is true that displacement took place during the apartheid era, but its effects continue. The dam might have fulfilled and still be working towards achieving its goals, i.e. a dependable supply of water for the Durban metro and surrounding areas. It may be true to argue that the dam is for the public good and that it has contributed and is still contributing to improving the quality of life of millions of people. What seems unjustifiable however is the fact that there are still many relocatees who even thirteen years after the dam was completed are still suffering the consequences of the dam. These are consequences as a result of poor planning, insufficient compensation and continued neglect or lack of support mechanisms in the relocation areas.

Achieving social justice requires active intervention. With impediments having not been removed the researcher argues that families are not able to realize their capacity for meaningful participation in their communities. Many householders believe that their rights to citizenship and their roles as members of the South African society are meaningless. In view of this the researcher makes a number of recommendations which are very much dependent on the willingness of the state authorities to contribute. These recommendations are based on the belief that social arrangements are not a natural phenomena but a human creation. According to Smith (1997) what human beings created, human beings can also change.

### **8.3.1 Need for intervention to correct past injustices**

As it is discussed in Chapter Seven, many families are not just sitting waiting for someone to help them. The positive efforts of individual households, as well as various strategies, are visible. There are attempts to integrate the past and the present. Families however differ with regards to their abilities to effectively adapt. Those who are finding it hardest to adapt, as discussed in the previous chapter, are the ones who need more attention. Intervention is needed mainly to speed up the development process, something for which many dam victims have been longing for many years. Intervention can be in many forms, i.e. it can be direct or indirect. The aim of the intervention would be to strengthen the mechanisms already in place, thus allowing these families to improve their livelihoods and quality of life. It would be to remove those obstacles discussed in Chapter Seven and assist families to maximize opportunities to achieve their goals.

A very important but ignored issue is that of recognizing these people, making sure that they are well cared for and their plight attended to. This is important to make them realize that their existence as citizens of the democratic South Africa is still important. It must be noted however that it may be difficult for the government authorities to pay specific attention to the dam victims. Many people are experiencing the same hardship as the dam victims and the authorities have a duty to try and address their problems too. This does not however mean that something cannot be done to improve the quality of life of especially the more vulnerable families who are victims of Inanda dam.

People will not simply forget the history and move on with their lives while there is still the gap between the past and present. As long as the dam is still operating, still hosting jazz festivals, and still used for recreational purposes while many relocated families are still living in “tin” houses and having no water to drink, their eyes will always be “full of tears”.

### **8.3.2 Need for the provision of housing**

Housing appeared to be the single most important physical indicator of quality of life for all families visited. It is therefore suggested that housing is the first issue to be addressed especially for those families who are still living in “tin” houses and poorly planned houses that were only used to supplement the tins. If government intervention is used to provide two-room houses of the same size as the houses currently provided to poor people in many places, allowance must be made for people to be able to extend these houses. In other words, there should be enough space left for families to be able to extend the houses to accommodate larger families. These people have no place in their original areas - no place anywhere else except in their current relocations. It must be noted however that even if people are given these two-room houses, this may be met with dissatisfaction since the families had been promised four-room houses, not these small houses.

Such housing schemes as the *Masakhisane* scheme are good. They assist in reducing dependence on government. People contribute something, i.e. energy and money to get houses built. This promotes community spirit and co-operation, which is necessary for the long-term sustainability of the communities and the schemes. People work together to achieve a common goal, which in this case is a better quality of life. Government intervention in such schemes however is still necessary to avoid exploitation and alienation of the poor people who are eager to go on with their lives. This is necessary to ensure that the very injustices of the past, regarded as cheating and deception, are not repeated. The *Masakhisane* scheme needs to be made more transparent and accountable. Where necessary, the government can meet families halfway financially.

### **8.3.3 Need for the provision of basic services to families who do not have these**

There are families who do not have, but need, such services as water and electricity. Attempts must be made to remove the forces that hinder the provision of these services.

There is need to strengthen the communication links between the local authorities and the communities and to ensure that community needs are well addressed and problems resolved. This therefore means that, communication links must be strengthened between the community and the local authorities.

The provision of services should not however mean that such services are necessarily provided free of charge. It is up to the Durban Unicity Council to decide whether to provide these services free of charge or whether people are made to pay for them. Part of the promise that was made when people were displaced was that, houses would be provided and land made available for grazing and cultivation free of charge. Some households interviewed admit that they knew that such services as water and electricity would not be provided free of charge. In the study it appeared that, people are willing to pay for services especially electricity as long as the service exists in good condition. Perhaps a free service especially water would need to be provided to the very needy and poorest families. All these issues however need to be worked out through communication between the authorities and the communities.

#### **8.3.4 Need to clarify the unresolved conflict over land and money compensation**

While strategies to improve individual families and communities are good, such attempts to address specific issues such as claiming money compensation have not been successful. While the researcher is uncertain about the possible outcome of claim against the chief for money compensation by the former members of the AmaQadi tribe, a response is needed from the government to clarify this issue to the claimants. For the dam victims to be satisfied, it is important that they fully understand the conditions on which the money was issued, how it was going to be spent, and whether they themselves have any entitlement to it. The researcher believes that if such issues are not communicated clearly to these people, conflict and confusion is likely to last for many decades to come and perhaps this will be the theme of a clash between the next generations. The former members of the Ngcolosi tribe in Dinabakubo have fought a “winning battle” over full ownership of compensatory land. There is thus a possibility that the claim for compensation money is a valid claim and can also be won.

## 8.4 CONCLUSION

With the Inanda dam as a case study, this research has explored the long-term experiences of the people displaced by large dams. The literature reveals that a lot of research has been done on the impacts of dams. This informed the first and second objectives of this study. In the case of the Inanda dam a study on impacts was done in the late 1980s soon after the dam was built. However, the literature has shown that many such studies done in the period when the issues are still “fresh” tend to simplify the actual effects of the dam projects.

The strength of this thesis therefore has been that it focused on both the adverse effects and the positive aspects of the Inanda dam over time. Some positive aspects have been realized in the long-term. However, many years after the project was implemented, it is interesting to note that, its negative impacts on the displaced families are still felt in the relocation areas. The discussion about the Inanda dam in this thesis raises questions of environmental and social justice in the context of a democratic South Africa. Since no follow up studies have been done since the dam was completed, it is believed that this thesis will contribute to the existing body of knowledge about the long-term impacts of large dam projects.

The third and fourth objectives of this study went beyond describing and discussing the adaptation strategies of the households displaced by the Inanda dam. An attempt was made to study in detail the response of the households to disruption. By focusing on reconstructive initiatives and identifying constraints to adaptation, it is believed that some lessons can be learned for best practices in the future planning and implementation of such projects.

The findings confirm the argument that the research about the impacts of large dams should not be limited to the years following dam construction. Long term follow up studies are required. In the case of the Inanda dam, further studies are still required to evaluate its impacts on households that were not moved, but continue living in close proximity to it. Such questions as to what extent is the dam an “environmental good” or an “environmental bad” to these households, has not been addressed yet. The understanding of this issue is important so as to provide a general picture of the development effectiveness of the Inanda dam in the context of the ongoing worldwide debate on large dams.

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## **APPENDIX A**

**Table showing households who were interviewed, names of the relocation areas, names of the original areas, interview dates and the number of interviews conducted.**

<b>Resettled households</b>	<b>Relocation areas</b>	<b>Original areas</b>	<b>Interviews visiting Number of visits and dates</b>
1. Ms Nxumalo and Mr Majola, Daughter and granddaughter	Ntuzuma G	Maphephetho	1. 24 Nov 2000 2. 19 Dec 2000 3. 02 Mar 2001
2. Mr and Ms Thabede and daughter	Ntuzuma G	Ngcolosi	1. 24 Nov 2000 2. 19 Dec 2000 3. 02 Mar 2001
3. Ms Mntambo and children	Ntuzuma G	Ngcolosi	1. 24 Nov 2000 2. 19 Dec 2000 3. 02 Mar 2001
4. Ms Blose and children	Ntuzuma G	MaQadi	1. 24 Nov 2000 2. 19 Dec 2000 3. 02 Mar 2001
5. Ms Jali and children	Dinabakubo	Ngcolosi	1. 12 Dec 2000 2. 08 Jan 2001 3. 10 Mar 2001
6. Mr and Ms Jali and other family members	Dinabakubo	Ngcolosi	1. 12 Dec 2000 2. 08 Jan 2001 3. 10 Mar 2001
7. Mr and Ms Msomi	Dinabakubo	Ngcolosi	1. 23 Dec 2000 2. 08 Jan 2001 3. 10 Mar 2001
8. Ms Meyiwa and other family members	Dinabakubo	Ngcolosi	1. 23 Dec 2000 2. 08 Jan 2001 3. 10 Mar 2001
9. Mr Shabalala	Amatikwe	Ngcolosi	1. 23 Nov 2000 2. 27 Dec 2000 3. 20 Mar 2001
10. Ms Gumede and Sdumo (son)	Amatikwe	Ngcolosi	1. 23 Nov 2000 2. 27 Dec 2000 3. 20 Mar 2001
11. Ms Hadebe and daughter (daughter)	Amatikwe	Ngcolosi	1. 29 Nov 2000 2. 27 Dec 2000 3. 20 Mar 2001
12. Mr. Mtolo and	Imbozamo	Maphephetho	1. 16 Jan 2001

daughters			2. 19 Jan 2001 3. 20 Mar 2001
13. Mr. Khomo	Imbozamo	Maphephetho	1. 16 Jan 2001 2. 23 Jan 2001
14. Ms and Ms Magwaza	Imbozamo	MaQadi	1. 19 Jan 2001 2. 23 Jan 2001
<b><u>Other key informants</u></b>		<b><u>Date</u></b>	
Mr Ngcobo of Dinabakubo		12 Dec 2000	
Mr. M Meyiwa of Dinabakubo		08 Jan 2001	
Mr. P Gwala of Ntuzuma G		19 Dec 2000	
Mr. R. Nxumalo of Ntuzuma G		02 March 2001	
Ms. Khomo of Fredville		15 March 2001	
<p>These individuals were key informants and they provided useful information on the major issues.</p>			

## **APPENDIX B**

**Extract from unstructured interview with respondents from a household in one of the relocation areas**

**Extract from unstructured interview**

**Date: 23 December 2000**

**Place: Dinabakubo**

...

**Interviewer:** I have heard that people were given various choices of relocation areas to choose from, how did your family make a choice to come to this relocation area?

**Respondent 1 (husband):** *We had no choice, we were forced my son. We stayed for 20 days in community schools and halls after the dam had flooded our homesteads. Thirty families not thirty people occupying one hall, the husbands, wives and children together ... we were cooking in one place. Although the government was feeding us, we were living like animals. It is only on the 17<sup>th</sup> of October 1987 that attempts were made to transport us by trucks to this place where "tins" were then provided. One promise made prior to the construction of the dam was that each and every household would be provided with a well-built house. Unfortunately this and other related promises were never fulfilled*

**Respondent 2 (wife):** *Yes, but that never happened my son, until today. Initially, we got one "tin" house (the one you see ... adds the husband) and later they gave us the second "tin" because my family is big.*

**Interviewer:** Yes, how many houses did you say you had father down at Ngcolosi?

**Respondent 1 (husband):** *We had 4 round thatched roof houses, 1 five-room mud house with brand new corrugated iron roof. That is a very big homestead son. We had livestock (cattle, goats, even chicken) and were cultivating land.*

**Interviewer:** If you remember well father, how many cattle did you have?

**Respondent 1 (husband):** *I had 15 cattle but only 4 managed to survive after we had left them to our relatives at Ngcolosi. Even the five cattle I have now, I am planning to get rid of them.*

**Interviewer:** Why, why do you want to get rid of them?

**Respondent 1 (Husband):** *How can you ask that? Look there is no space here to keep them. In fact I do not like selling them. Cattle have many uses to us, but due to circumstances, I am forced to do so.*

**Respondent 2 (wife):** *But we were promised grazing pastures*

**Respondent 1 (husband):** *Yes but that never happened. This place will soon be turned into a township. We are now talking about square meters of land but that is nothing. How can you keep cattle in such an environment?*

**Interviewer:** Did you have goats?

**Respondent 1 (husband):** *Lets forget about goats.*

**Respondent 2 (wife):** *No we can't forget about goats father, we did have goats and they were all left behind because there is no space to keep them here. We had chicken, plenty of them, using water from Mgeni River collecting firewood. In fact, everything we were getting free of charge. Now everything is money.*

**Interviewer:** Mama, father said earlier on that you had five thatched roof houses and 1 big corrugated iron five-room house, how many of you occupied these houses?

**Respondent 1 (husband):** *Should we start counting?*

**Interviewer:** Yes please

**Respondent 1 (husband):** *How many kids did Mandla have? 4?*

**Respondent 2 (wife):** *mmm...yes he had 4 kids. Including my daughters kids, there were many of us in the family but the houses we owned could accommodate all of us. We were using some of the houses for the church and many people could still be accommodated.*

**Interviewer:** mmm, I see. Mandla had 4 kids plus himself and his wife that is 6 people. How many other people were there in the family Ma?

**Respondent 2 (wife)** *I had my own 5 children, excluding Mandla my son. In other words there were 7 of us including my husband and myself, am I right baba?*

**Respondent 1 (husband):** *Yes*

**Interviewer:** This means that there were 12 people in the family sharing 5 round traditional houses and 1 five room big house, am I right Baba?

**Respondent 1 (husband):** *Yes son but do not forget that, these houses were very big. They do not compare with the tins we are occupying now. This is nothing. The government robbed us and we are still robbed even today. Although we are now clever it is however too late, the government has gone many miles.*

**Interviewer:** In what sense are you still robbed father?

**Respondent 1 (husband):** *The boats you see in the dam are clubs. They pay joining fees; they do not just swim like kids. The dam is making money, but where are the people it displaced? Where are the innocent souls it moved away?*

**Respondent 2 (wife):** *Not a single promise was met*

**Respondent 1 (husband):** *Yes, as we are experiencing these difficulties we hear the announcements about the jazz festival. People will pay R35 on the 26<sup>th</sup>. This means that the dam is operating, it is generating income for the government and feeding millions of people, but we the victims are still battling to survive after it displaced us. We were made to leave areas rich in all aspects of life and were made to move to areas where we will die having not enjoyed peace and happiness in our souls.*

**Respondent 2 (wife):** *People are dying here. We do not know whether it is this coldness in winter and hotness in summer. The tins are not comfortable. The candle bends in hot summer and Rama (margarine) melts quickly...*

## **APPENDIX C**

**E-mail correspondence about the World Commission on Large Dams (WCD)**

## **Enquiry about the Commission on Large Dams**

> From: Phillip Ninela  
>  
> Email: juda@webmail.co.za

> Dear sir/madam

>  
> With regards to the work of the WCD, I have two questions

>  
> 1. I believe that the World commission on Dams has 'completed' its task. Who therefore is going to ensure that the recommendations of the Commission are implemented?

2. One of the recommendations of the Commission is that, the past unresolved problems associated with displacement and resettlement need to be addressed. I would like to know, what initiatives (if any) in South Africa have been/or are being initiated to achieve this goal

Thank you

Phillip Ninela (student)  
University of Natal, Durban  
School of Life and Environmental Sciences  
E-mail: juda@webmail.co.za  
Tel: 031-2601454  
or 031-5030726

### **Reply:**

Dear Mr Ninela

The WCD completed its mandate by producing its final report and disbanded after the November launch. The Secretariat office will close at the end of March 2001. The WCD Report is now in the public domain - in the hands of governments, the private sector, civil society, international organisations and affected peoples. The Commission was not set up as a judicial body and therefore there is no obligation by any institution to have to follow the guidelines of the WCD. It is now up to individual and collective action by stakeholders to decide how to adopt and implement the recommendations of the Commission. The remaining component of the WCD process - the WCD Forum (whose last meeting is in Cape Town on 25-27 February 2001) consists of a balanced representation of the various stakeholder groups, and it is thus the body who may initiate coordinated collective follow-up activities where these are considered necessary. For more information on the WCD Forum - please see our website [www.dams.org](http://www.dams.org). On the specific issue on displacement/resettlement issues in South Africa - the Government of South Africa is currently reviewing the WCD's final report which was launched on 16 November 2000. At this stage it is too early to say how the Government will decide to implement the WCD recommendations on unresolved problems of displacement and resettlement. I have two suggestions. Firstly, the WCD thematic Displacement, Resettlement, rehabilitation, reparation and development (No 1.3) may be of significant interest to you. This can

be downloaded from our website via the link  
<http://www.dams.org/thematic/>. Secondly,

I would advise that you contact  
Ms Liane Greeff, Project Officer, Environmental Monitoring Group  
based in Cape Town. Her e-mail is [liane@kingsley.co.za](mailto:liane@kingsley.co.za). She has  
been in close contact with the WCD process and coordinated the  
conference 'Southern African Hearings for Communities Affected by  
Large Dams' held 11-12 November 1999 - she is still involved in the  
follow-up to this conference. I hope this helps - thank you for your  
interest in the WCD.

Pamela Wallace  
Natural Resource Economist  
World Commission on Dams  
5th Floor, Hycastle House  
PO Box 16002  
Vlaeberg, Cape Town  
8018 South Africa  
Tel: +27 21 426 4000  
Fax: +27 21 426 0036  
Web: <http://www.dams.org>  
<mailto:pwallace@dams.org>

**Subject: Follow up on the WCD recommendations**

Sent: Thursday, February 08, 2001 10:53 AM

Dear Liane

*I am a full time Masters student in the University of Natal (Durban), and currently doing research on the people who were displaced by the Inanda dam in KwaZulu-Natal. My research is focusing on the long-term impacts of this dam on the quality of life of households who were displaced and resettled.*

*I have been in contact with Pamela Wallace of the World Commission on Dams as well as with representatives of the families who were displaced by the dam, who all suggested that I contact you.*

*I have been given to understand that you coordinated the conference "Southern African hearings for communities affected by large dams". I also found that you are still involved in the follow-up to this conference.*

*Given the fact that the WCD has submitted its final report, and one of its recommendations being that the past unresolved problems associated with displacement and resettlement need to be addressed. As far as this issue of resolving the past unmitigated impacts of dams in South Africa, I would like to know if you have knowledge of any steps taken so far by the SA government, the civil society, the private sector, NGOs, or by any interested and affected parties to achieve this goal. Also, I would like to know what is the role of your Organization at this stage with regards to this issue.*

Thank you

Phillip Ninela  
University of Natal  
School of Life and Environmental Sciences  
Durban  
Tel: 031-2601454 (GIS LAN)  
Or  
Tel: 031-5030726 (home)  
E-mail: juda@webmail.co.za

**Reply**

Dear Phillip

*I thought I had responded to you but I see that I haven't. I am still very much involved with the social side of the WCD and we do plan a number of things - the one is a preparatory workshop with KZN communities – from Inanda, Woodstock and Pongolapoort dams during late May to discuss the findings of the WCD. The other is*

*a joint meeting with the South African National Commission on Large Dams (SANCOLD), Department of Water Affairs and Forestry (DWAF) and Environmental Monitoring Group (EMG) with a multi-stakeholder dialogue Forum in June!9/20.*

*A couple of questions - do you have a copy of the Hearings report (if you want electronically - email karen kallmann at safeage@mweb.co.za and ask her to send you one) or alternatively, one could be posted to you.*

*EMG is hosting NAWISA - a network for advocacy of water issues in southern africa - which includes many organisations that feel strongly about large dams. We are also in the process of planning an African "Dams meeting" to discuss the implications of the WCD in Nigeria in September and to prepare for the second international meeting of communities affected by Dams in Thailand next year. So there is a lot going on, and it would be best to talk on the phone. I suggest you phone me at the numbers given below from 7 May onwards as I will be out of the office.*

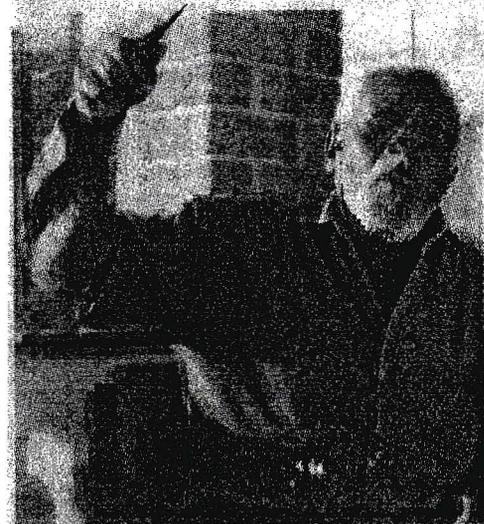
*Regards*

*Liane Greeff, Water Justice Programme Manager, Environmental Monitoring Group  
PO Box 18977 Wynberg 7824  
Cape Town, South Africa  
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Cell: 083 415 2365*

## **APPENDIX D**

**An article from the City Press newspaper of the 18<sup>th</sup> of March 2001 covering an issue on the conflict over money compensation between the former members of the AmaQadi tribe displaced by the Inanda dam and their former chief**

# AmaQadi want chief to repay 'their' cash



**UNYIELDING** ... Inkosi Muzonjani Ngcobo of the Amaqadi tribe is adamant those claiming land have been compensated  
*Pictures: Rajesh Jani/Al*

**EXPULSED** ... Sole breadwinner 91-year-old Bhizeni Cele remembers the large house she lived in before being evicted for the construction of Inanda dam

**PUT TO GOOD USE** ... The Rev Anthony Sibisi chairman of the finance committee of the Amaqadi tribe, explains there has been no misappropriation of funds

By MANDLA ZULU

DESTITUTE members of the AmaQadi tribe near Durban have taken KwaZulu-Natal premier Lionel Mtshali and local government and traditional affairs MEC Nyanga Ngubane to court in a bid to recover millions of rands allegedly misused by the tribe's leader, Chief Ngcobo.

In 1984 hundreds of families were removed from their land to make way for the construction of the Inanda dam. In 1994 the department of land affairs and agriculture paid R5.6 million as compensation to the tribe and for development of the area.

The chief's accusers claim he recently bought himself a fleet of luxury cars and a posh house in Durban from the proceeds. They also allege his adviser, Rev Anthony Sibisi, bought a flashy house with some of the money.

Sibisi said the chief did indeed own cars bought with the tribe's money, but he added that Ngcobo was performing his duties as chief and had a right to the money.

"He is the managing director of his tribe," said Sibisi.

Regarding his own house in Glen Anil suburb, Sibisi said he had bought it for R240 000 with his own money. He said he would welcome any investigation if there were complaints.

The AmaQadi tribe insists it wants the R5.6 million returned, with interest, which they believe will amount to more than R14 million today.

Ngcobo tells a different story. "The truth is that the R5.6 million belongs to me as the government was compensating me for my land where the dam was constructed. These people received their own compensation from the department for the loss of property

such as houses, shacks or whatever they had built on my land," he said.

Ngcobo claims he used some of the money to build classrooms and community halls.

Community leader Falakhe Gcabashe, who acts as spokesperson for disgruntled members of the tribe, accused the chief and his "cronies" of squandering the tribe's money.

"When a cheque was issued in March 1994 to the Qadi Tribal Authority and transferred to the (tribe's) financial control committee chaired by Rev Anthony Sibisi, who is also an advisor to chief Ngcobo, he (Ngcobo) took the money and said it belonged to him," said Gcabashe.

He said the money was to compensate the community for the loss of their houses and crops.

The community had been promised another piece of land called

eTafuleni, but they never got that land was invaded by squatters who refused to move when government tried to evict them.

"We were then left landless neglected by the chief (Ngcobo) said Gcabashe.

The tribe's lawyer, Malusi Ngqaba, refused to comment and the matter was *sub judice*.

Mtshali's and Ngcobo's of both said they were not aware tribe has taken them to the 1 Court.

City Press is in possession documents from the department of land affairs, dated October 2, and signed by then director general ED Maartens, that state the money was to be spent.

The documents state the 6 million was to be controlled representative financial committee and spent "to ensure the money is used for the benefit of the tribal members".