

Evaluating Integrated Human Settlements by means of sustainability indicators

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It all starts here TM

PREFACE

Foremost, I would like to give thanks to my Supreme Supervisor, Jesus Christ, for the support, assistance guidance, motivation and inspiration He offered me throughout this project. Without Him it would not have been possible.

Secondly, a very big thanks to my two supervisors, Prof. Juane Cilliers and Selna Cornelius, for their assistance throughout this research project. Their extensive knowledge on relating aspects added value to my research.

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ABSTRACT

Over the past 17 years, the South African Government has exerted a massive effort to deliver three million fully subsidized houses to low-income households, a feat that few other countries in the world have achieved. Despite this, there is mounting evidence that the current housing policies are not functioning optimally. Challenges arose from these un-functional policies which contributed to an ever increasing housing backlog, insufficient human and financial support and inefficient long term housing integration approaches. Housing provision was based on a quantitative approach in response to the ever increasing need of housing in South Africa. Government initiatives introduced the Reconstruction and Development plan (RDP) in 1994 to address this housing issue, but it contributed to the quantitative and unsustainable approach as housing provision was uniformed, financially unsustainable and was unlikely to deliver on the required scale. Recently human settlement delivery in South Africa had a paradigm shift to a more sustainable approach where housing delivery is focussed on the creation of sustainable integrated human settlements. The aim of this research is to evaluate this paradigm shift in human settlement delivery, along with the international and national initiatives such as the Un Habitat Agenda, Millennium Development Goals, Breaking New Ground and the National Development Plan in an attempt to understand what role they played towards the paradigm shift in human settlement delivery in South Africa, especially in terms of the creation of sustainable integrated human settlements. Furthermore, it was identified that an approach was needed to guide human settlements to be more sustainable. The 'sustainability indicator identification approach' was identified as an important link which can help to foster, create and promote sustainable development within integrated human settlements. Sustainability indicators provide feedback to decision makers, researchers and the community regarding the past and likely trends in the living environment that shapes the future as well as assisting and guiding housing delivery to be more sustainable. Sustainability indicators often reveal the systematic linkages that are often overlooked. This research strives to illustrate the importance of such sustainability indicators and their contribution towards the creation of sustainable development within integrated human settlements. The aim of this study was not to bring a solution to the complex and political human settlement environment, but rather presenting possible solutions to better sustainability approaches within integrated human settlements. The study addressed and evaluated sustainability of integrated human settlements from a spatial planning perspective.

And key terms

- Integrated human Settlements
- Sustainable development
- Sustainability indicator identification

OPSOMMING

Oor die afgelope 17 jaar, het die Suid-Afrikaanse regering 'n massiewe poging uitgeoefen om meer as 3 miljoen gesupsideerde huise aanlae inkomste huishoudings te lewer, hierdie poging was 'n prestasie wat min ander lande in die wêreld kon bereik het. Ten spyte van hierdie prestasie, is daar nogsteeds toenemende bewyse dat die huidige behuisingsvoorsienings benaderings nie optimaal funksioneer nie. Hierdie verkeerde benaderings het seker uitdagings meegebring en veroorsaak dat behuisingsvoorsiening nie kan bybly met die behoefte na behuising nie, oneffektiewe menslike en finansiële advise asook oneffektiewe langtermyn behuisings integrasie modelle. As gevolg van die groot vraag na behuising in Suid Afrika, was 'n kwantitatiewe benadering tot die lewering van behuising tot gevolg.. Die Heropbou en Ontwikkelings Plan (HOP) was in 1994 deur die regering in gestel om hierdie behuisings probleme aantespreek, maar het bygedra tot 'n kwantitatiewe en onvolhoubare benadering. Behuisingsvoorsiening was uniform en finansiëel onvolhoubaar omrede dit so vêr vanaf ekonomiese groeipunte geleë was. Onlangs het behuisingsvoorsieningsmiddele in Suid Afrika 'n paradigma verskuiwing ondergaan, waar die voorsiening van behuising gefokus is op die lewering van volhoubare geïntegreerde menslike nedersettings. Die doel van hierdie navorsing is om die paradigma verskuiwing te evalueer asook die internasionale en nasionale beleide soos die Un Habitat Agenda, Millennium Ontwikkelingsdoelwitte, Breaking New Ground asook die Nasionale Ontwikkelingsplan wat bygedra het tot die paradigma verskuiwing en hul betrekking tot die ontwikkeling van volhoubare geïntegreerde menslike nedersettings. Verder het daar tot die besef gekom dat in orde omvolhoubare ontwikkeling binne menslike nedersettings te verseker 'n benadering benodig sal word wat volhoubaarheid kan aanspreek en kan evalueer. Volhoubare aanwyseridentifikasie benadering was geïdentifiseer as die belangrikke skakel wat kan help om volhoubare ontwikkeling binne geïntegreerde menslike nedersettings te bevorder. Die navorsing streef daarna om die belangrikheid van volhoubare aanwysers aante dui asook hul bydrae tot die skepping van volhoubare ontwikkeling binne geïntegreerde menslike nedersettings te illustreer. Die doel van hierdie studie was nie om oplossings te bring vir die komplekse en politiese omgewing in Suid Afrika nie, maar poeg eerder om moontlike oplossingsvoortelê wat sodoende volhoubaarheid binne geïntegreerde menslike nedersettings te kan bevorder. Die studie adresseer en evalueer volhoubaarheid binne geïntegreerde menslike nedersettings vanuit 'n volhoubare beplannings oogpunt.

En sleuteltermes

- Geïntegreerde Menslike Nedersettings
- Volhoubare ontwikkeling
- Volhoubaarheidsindikatore

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CHAPTER 1

INTRODUCTION

1.1 Points of departure

Over the past 17 years, the South African Government has exerted a massive effort to deliver 3 million fully subsidized houses to low-income households, a feat that few other countries in the world have achieved (Place, 2004: 4). Despite this, there is mounting evidence that the current housing policies are not functioning optimally and are unlikely to do so in the future (Place, 2004:21). Housing provision was based on a quantitative approach due to the great demand with regards to housing delivery in South Africa, which led to an unsustainable unbalanced housing approach. Government incentives introduced the Reconstruction and Development plan (RDP) in 1994 to address this housing issue, but contributed to quantitative and unsustainable approach as housing provision was uniformed, were financially unsustainable and was unlikely to deliver on the scale required (Place, 2004: 7). Recently human settlement delivery had undergone a paradigm shift to a more sustainable approach where housing delivery is focussed on the creation of sustainable human settlements.

1.2 Problem statement

Human settlement delivery in South Africa has been a big concern over the last few years. According to national policies such as the Breaking New Ground, Integrated Urban Development Framework, Rural Development Framework and National Development Plan human settlement delivery contributed to unsustainable and insufficient planning with regards to human settlement delivery. Furthermore, the global report on human settlement delivery also mentioned that urban planning systems with regards to human settlement delivery incentives worldwide has changed very little and contributed to urban problems rather than giving guidance with regards to human settlement delivery.(UN, 2009:38). Despite the delivery of almost two million housing units since 1994, there is still a great housing demand (Place, 2004:6). The government attempted to provide mass housing using a low rise, low density housing layout and typology model. However, due to the location of these RDP projects on marginalised land, impersonal unit design, poor layouts and low quality construction, this approach too has often resulted in unsustainable human settlement environments and poverty entrapment (SA, 2004:9).

1.3 Research questions

1.3.1 This study aims to address the following research questions:

- How can integrated human settlements be defined within the local South African planning context?
- Did human settlement delivery in South Africa undergo a paradigm shift?
- Is there a cross-cutting theme and core issues evident within current guiding policies and legislations that could be interpreted as sustainability indicators for human settlement planning?
- Can the use of sustainability indicators promote sustainable development in South African integrated human settlement planning and delivery?

1.4 Research aims

1.4.1 Primary research aims:

The theoretical founding and literature investigation aims to:

- Investigate the paradigm shift in human settlement delivery in South Africa over the last decades from 1994 to 2014.
- Investigate the legislative and policy frameworks which contributed to paradigm shift in human settlement delivery in South Africa
- Define an integrated human settlement approach in terms of modern human settlement delivery in South Africa.

The empirical research aims to:

- Investigate international approaches towards the planning of integrated human settlements.
- Identify sustainable indicators, applicable to the local context, based on objectives of guiding policies, legislation and best practices.
- Evaluate local approaches and case studies towards integrated human settlement delivery by means of the identified sustainability indicators.
- Compare identified sustainability indicators with community needs, as well as to current reality of both urban and rural settlements, in order to identify gaps within integrated human settlements and sustainable development.

1.5 Delineation of study area

Fleurhof (an urban integrated human settlement) and Ganspan (rural settlement) was identified as the study areas respectively. As illustrated by Figure 1.1 Fleurhof is situated in the Gauteng province while Ganspan is situated in the on the border of the North-west and Northern Cape provinces of South Africa.

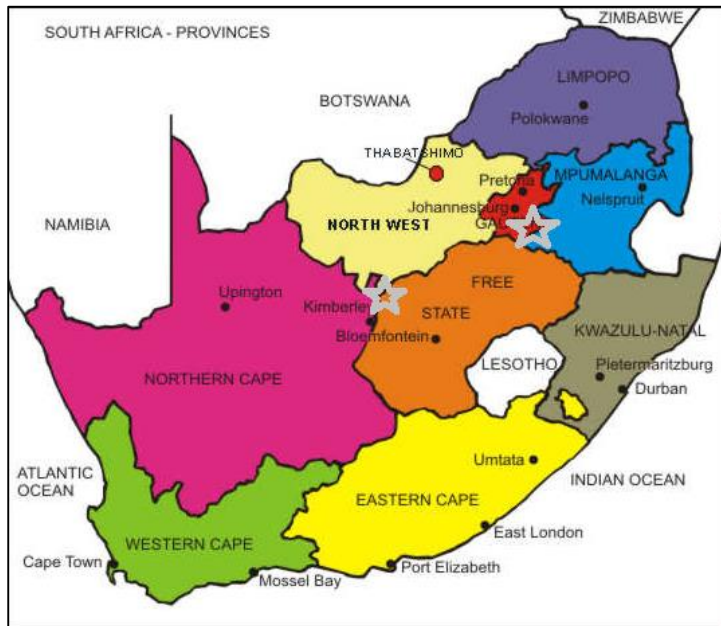


Figure 1.1 Maps of South African Provinces and location of case study areas

Source: Google Maps (2015b)

1.6 Method of Investigation

The study exhibited relevant aspects regarding the concept of integrated human settlements: the definition in terms of local context, the multidimensional role it imposes and the role it plays with regards to future human settlement delivery in South Africa. Different international and national policies and planning approaches were evaluated to evaluate objectives of such in an attempt to identify sustainability indicators that would be applicable to the South African housing environment, including:

- Un Habitat Agenda's Millennium Development goals
- Agenda 21 and;
- Breaking New Ground
- National Development Plan
- Integrated Human Settlement Development Framework
- Rural Development strategy and;
- The Spatial land use and management act

Based on the assumption that sustainability indicators can guide integrated human settlements to be more sustainable, sustainability indicators were used to evaluate two case studies namely Fleurhof (Urban) and Ganspan (Rural) community needs were identified from the case studies respectively and compared to the identified sustainability indicators and the current reality (and provision of facilities and functions) as part of a gap-analysis within urban and rural human settlement delivery. The comparative matrix captured the identified sustainability indicators and identified issues where intervention is needed. Although it was not a primary aim of this research, the two case studies also shed some light on the different needs within urban and rural areas, thus implying the need for different planning approaches and solutions. The 'sustainability indicator identification approach' helped to guide the integrated housing settlements that was included in this research to be more sustainable.

1.7 Structure of this research

Illustrated in Table 1-1 is the structure of this research.

Table 1-1 Structure of dissertation

Chapter	Title	Description
<i>Literature</i>		
Chapter 1	Introduction	➤ Problem statement, methodology, primary research aims, limitations to research as well as the structure of this dissertation.
Chapter 2	Integrated Human settlements planning	<ul style="list-style-type: none"> ➤ Integrated Human Settlements definitions and fundamentals. ➤ International and national principles, which contributed to planning and development of IHS. ➤ In detailed study of the planning and development of an IHS.
Chapter 3	Background to Human Settlement delivery in South Africa	<ul style="list-style-type: none"> ➤ Background to human settlement delivery. ➤ Human settlement context in South Africa. ➤ Paradigm shift in human settlement delivery in S.A. ➤ Challenges confronting integrated human settlement in S.A.

Chapter	Title	Description
<i>Literature</i>		
Chapter 4	Policies guiding human settlement delivery in South Africa	<ul style="list-style-type: none"> ➤ Discussing various policy and legislations guiding human settlement delivery in South Africa
Chapter 5	Indicators of sustainability	<ul style="list-style-type: none"> ➤ Principles of sustainable indicators. ➤ National and international pilot studies contributing to sustainability indicator formulation. ➤ Processes with regards to sustainable indicator identification.
<i>Empirical</i>		
Chapter 6	Case Study of Urban and Rural Integrated human settlement deliveries	<ul style="list-style-type: none"> ➤ Sustainability indicator identification approach: Policy approach ➤ Background of urban and rural case studies. ➤ Fundamentals of urban and rural integrated human settlements. ➤ Comparison between linkages and fundamentals of urban and rural case studies ➤ Identify community needs within urban and rural integrated human settlements
<i>Conclusions and Recommendations</i>		
Chapter 7	Conclusions	<ul style="list-style-type: none"> ➤ Linking theoretical and empirical research ➤ Drawing conclusions based on the research questions and aims
Chapter 8	Recommendations	<ul style="list-style-type: none"> ➤ Introducing the sustainability indicator model for South African human settlement deliveries as possible solution to guiding integrated housing settlements to be more sustainable

Source: Own Construction (2014)

1.8 Limitations of this research

This study addressed and evaluated sustainability of integrated human settlements from the perspective of sustainable planning. The aims of this study was not to bring a solution to the complex and political human settlement environment, but rather on presenting possible solutions to better sustainability approaches within integrated human settlement delivery. This research is furthermore, limited to sustainability indicator identification within integrated human settlement and therefore doesn't take any other policies or legislations into consideration which does not comply with the research criteria. The empirical investigation comprised of only one urban and one rural case study with the aim to illustrate the different need and approaches and therefore additional studies must be done in order to generalise and conclude results.

1.9 Definitions

The following definitions as captured in Table 1-2 were to be considered as important definitions of applicable terminology that were used in this research.

Table 1-2 Glossary

Integrated Human Settlements	“well-managed entities in which economic growth and social development are in balance with the carrying capacity of the natural systems on which they depend for their existence and result in sustainable development, wealth creation, poverty alleviation and equity”
Sustainable Development	“Development which meets the needs of the present without compromising the ability of future generations to meet their own needs.”
Sustainability indicators	“Sustainable indicators can be defined as ways to measure how well the community is meeting the needs and expectations of its present and future needs in terms of the community
Public Participation	Process where the ideas, opinions and concerns of local communities are collected and analyzed to be used as resources to improve plans and projects that interests and affects them

Source: Breaking New Ground (2004); Hart (2010); Ferguson& Low (2005:7)

CHAPTER 2

INTEGRATED HUMAN SETTLEMENT PLANNING

2.1 Introduction

Figure 2.1 illustrates the structure of Chapter 2

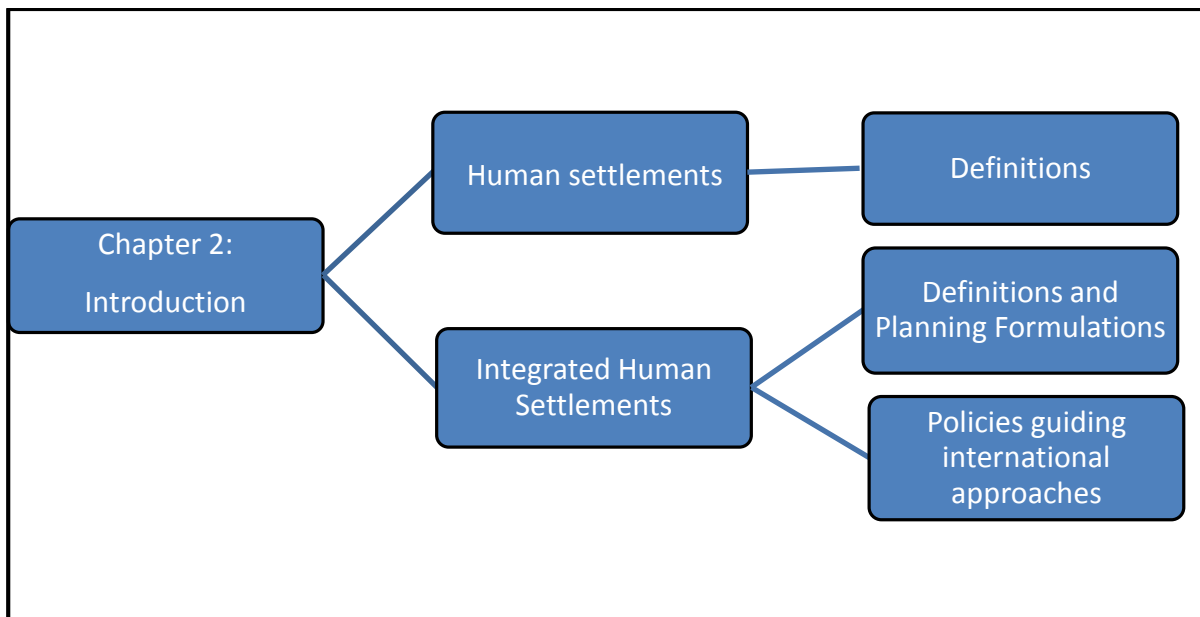


Figure 2.1 The structure of Chapter 2

Source: Own Construction (2015)

Human settlement defines peoples existence, they are places where people live, learn and work. Human settlements imply the totality of the human community, whether city, town or village with all the social, material, organizational, spiritual, and cultural elements that sustain it (SA, 2004;1). Over the last decade the increasing demands of job opportunities, health incentives, security and financial freedom resulted in a dramatic increase in the movement of people towards urban areas, while the same demands resulted in a dramatic decrease of people living within rural areas. About 300 million Africans currently lives in urban areas, and it is estimated that figure will rise to 1405 million by 2030 (SA, 2005:1).South Africa is not much different from the rest of Africa with close to 58 % of the population living in urban areas (SA, 2005:1). This rapid urban growth patterns has places significant pressure on natural and human systems.

According to Turner (1976:119) a comparison can be made between the provision of housing and a soccer game. Similar to a soccer game the delivery of human settlements consist of objectives, instruments and goals (The objectives of human settlement delivery is to devise

and formulate ways to make efficient use of resources, and a variety of disciplines and professionals (e.g. town planners, engineers, sociologists, environmentalists) to plan effective strategies and to score as many goals as possible (Turner,1976:119).Turner creates the feel that if human settlement delivery is to be successful a sense of cohesion must be created between government, private initiatives and the needs of communities.

Hamdi (1991:13) stated that the transitions in housing delivery also known as human settlement delivery mainly rely on three key concepts which form a crucial part in the development of human settlements. The three concepts include (1) redevelopment with urban renewal as the main focus point, (2) the integration of site and service schemes where social and economic opportunities are integrated with human needs and (3) in situ upgrading where the provision of water, electricity, sanitation and drainage are crucial in the development of human settlements (Hamdi, 1991: 13). These three concepts forms the basic framework of human settlement delivery, from where site and service schemes are based on human needs, well integrated with the environment and where in situ upgrading is implemented effectively, ensuring the improvement in quality of living environments (Hamdi, 1991:13).

2.2 Understanding human settlements

A human settlement essentially revolves around the community living at a particular location (Monto & Ganesh, 2005:48). It includes the prevalent natural environment, which is altered to suit and accommodate the community's lifestyles. In their simplest form, human settlements, such as those of tribes, can reflect great integrity with the natural environment with minimal built-environmental features (Monto *et al.*, 2005:49). On the other hand modern human settlements consist of great deal of built-environment features made by altering the natural environment. Such settlements are responsible for issues that threaten human settlement sustainability globally (Monto *et al*, 2005:50).

A modern community comprises of individuals involved in diverse activities needed for sustenance, security and prosperity of themselves and the community (Monto *et al*, 2005:51). The local community's living environment reflects the activities that they are involved in and also the manner in which they perform them (Bor, 1972; Johnson, 1989; Marsh, 1990).Sack (1986:1) supports these statements by mentioning that human settlement delivery are not as biological motivated but rather more socially and geographically rooted. Sack (1986:1) furthermore stated that modern human settlement planning are rather characterize on how people use their land, how they organise themselves in space and how they give meaning to a place. The numerous activities that characterize modern lifestyle can be classified into seven broad categories (Monto *et al.*, 2005:51). These activities and the nature of their performance

are responsible to varying in degrees in the classification of a modern human settlement. Table 2-1 presents an overview of these activities.

Table 2-1 Classification of modern human settlement activities

Classification of modern human settlement activities	
Activity class	Constituent and related activities
1. Residence	Shelter, basic site and service delivery and recreation
2. Agriculture	Cottage industries, poultry and dairy farm
3. Administration	Governance, law and order, defence
4. Industry and commerce	Industry, commerce, trade, stocks
5. Education and research	Secondary and higher education
6. Infrastructure and services	Water and sanitation, drainage, energy
7. Transport and communication	Mobility services, telecommunication

Source: Monto et al (2004a:51)

The community's living environment accommodates the activities it pursues and comprises of the built-environment and the surrounding natural environment (Bor, 1972; Johnson, 1989; Marsh, 1990).

The Global report on human settlement planning was introduced in 2009 with the aim to assess the effectiveness of urban planning with regards to the creation of sustainable human settlements (UN-habitat, 2009:38). The global report was implemented as it came to the realization that modern human settlement planning approaches changed very little and contributed to problems concerning with the delivery of: (Un-habitat, 2009:38)

- Demographic challenges of rapid urbanization,
- The economic challenges of uncertain future growth,
- Increasing socio-spatial challenges, especially social and spatial inequalities, urban sprawl, an unplanned peri-urbanization as well as
- the challenge and opportunities of increasing democratization of decision making as well as the increasing awareness of social and economic rights among ordinary people

Key messages arose from the global report on human settlements with all of them contributing towards finding a new role for urban planning in sustainable urban development. Integrated human settlements were one of this innovative approaches in recent decades as it was seen as an approach where human settlement delivery could be utilised in order to address demographic challenges, contribute to the creation of social and economic opportunities

integrated into an attractive and sustainable environment. As the world became numerically more urban, the Global report on human settlements imposed, (Un Habitat, 2009:38) that governments accept urbanization as a positive phenomenon. Integrated human settlement planning and development was identified as human settlement delivery incentive which, could utilise urbanization and could be the catalyst which is needed in order to create human settlements which has closer access to services (health, educational and quality of life), as well as to economic and social opportunities. The description of human settlements, along with the classification of modern human settlement activities emphasized the need of an integrated approach to the planning and provision of human settlements (SA, 2009:8). The successful planning of integrated human settlements will be described accordingly.

2.3 Integrated Human Settlements

Integrated human settlements poses to deliver better living standards based on economic, social and environmental needs (Monto *et al*, 2005:50). An integrated human settlement comprises of a process which addresses the availability of health, safety and transportation networks with the ultimate goal of providing liveable and viable human settlements. The Breaking New Ground policy defined integrated human settlements as “*well-managed entities in which economic growth and social development are in balance with the carrying capacity of the natural systems on which they depend for their existence and result in sustainable development, wealth creation, poverty alleviation and equity*” (SA, 2004:1). The aim of integrated human settlements is to restore humanity and dignity, to address spatial inequalities and to provide comfort and security for al (UN Habitat Agenda, 2004:1)

According to Monto *et al* (2004:104) integrated human settlement planning and development were based on a concept that a community’s attitude and its living environment determine human settlement sustainability. A community’s living environment comprises in its built and natural environments also known as a physical environment and therefore integrated human settlements include thus not only the physical elements of the environment, but also the community and its economy (Monto *et al*, 2004:104) As illustrated in Figure 2.2 integrated human settlement planning begins by considering the objectives of assessing and forecasting sustainable development within human settlements. This statement is split into the following two actions components:

1. Assessing sustainability of human settlements, and
2. Forecasting integrated human settlement processes (Monto *et al*, 2004:106)

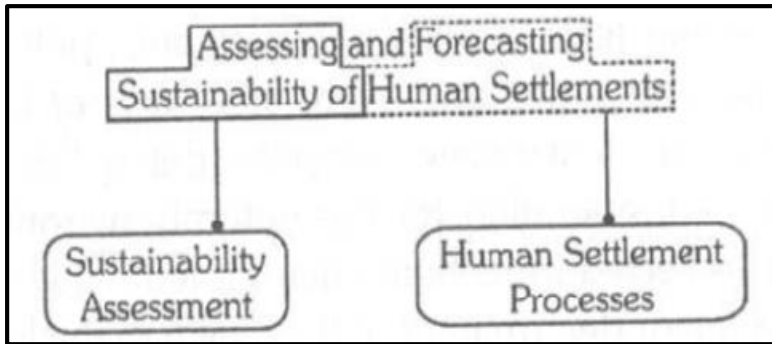


Figure 2.2 Integrated human settlement synthesis

Source: Monto *et al* (2004b:107).

Sustainability assessment refers to the community's living environment; its form and content determine its sustainability (Churchill and Beatz, 1999:17). Therefore sustainability assessment involves assessing the ability of the living environment to sustain community life.

The natural environment processes influenced and altered locally by human activities and the built environment, operate autonomously and humans have little control over them (Monto *et al*, 2004:107). Nevertheless, through extensive study and research (refer to amongst others Churchill and Beatz, 1999:17, Monto *et al*, 2004:107, Un Habitat, 2004:1 and SA, 2004:1) it is possible to understand and forecast the general trends and processes within the natural environment. These general trends illustrate the relations among community activities, community lifestyles and the community's living environments as well as the interactions between the built environments. As illustrated in Figure 2.3 community lifestyle, community activities and the attitude of the community plays contributes towards the development of a sustainable and integrated human settlement.

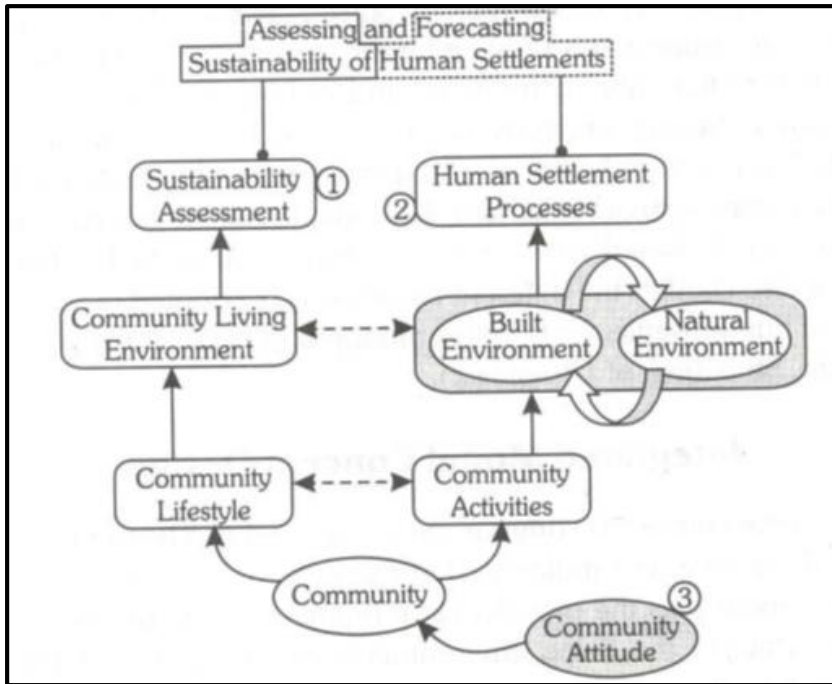


Figure 2.3 Integrated human settlement planning

Source: Monto *et al* (2004c:108)

Communities have certain expectations of what integrated human settlement delivery are to be, which contribute systematically towards community attitudes, lifestyles and community living environments. These aspects need to be taken into consideration in the planning and development of integrated human settlements. All role players are important in the delivery of a successful integrated human settlement approach (Monto *et al*, 2004:108)

As illustrated in Figure 2.3 integrated human settlement planning does not only consist of an built environment, but also of (community attitudes, lifestyles and community expectations which forms part of an integrated human settlement. The essence of this figure lies in the fact that interaction needs to take place between the natural environment, built environment as well as the community which comprises of 1) community attitudes, 2) community lifestyles and 3) community sustainability which needs to be addressed in order to create a successful integrated human settlements. The essence of Figure 2.3 could be linked to the integrated human settlement main priorities (mentioned earlier in section 2.2) which were to utilize housing provision as a means to address and promote economic and social development within a community.

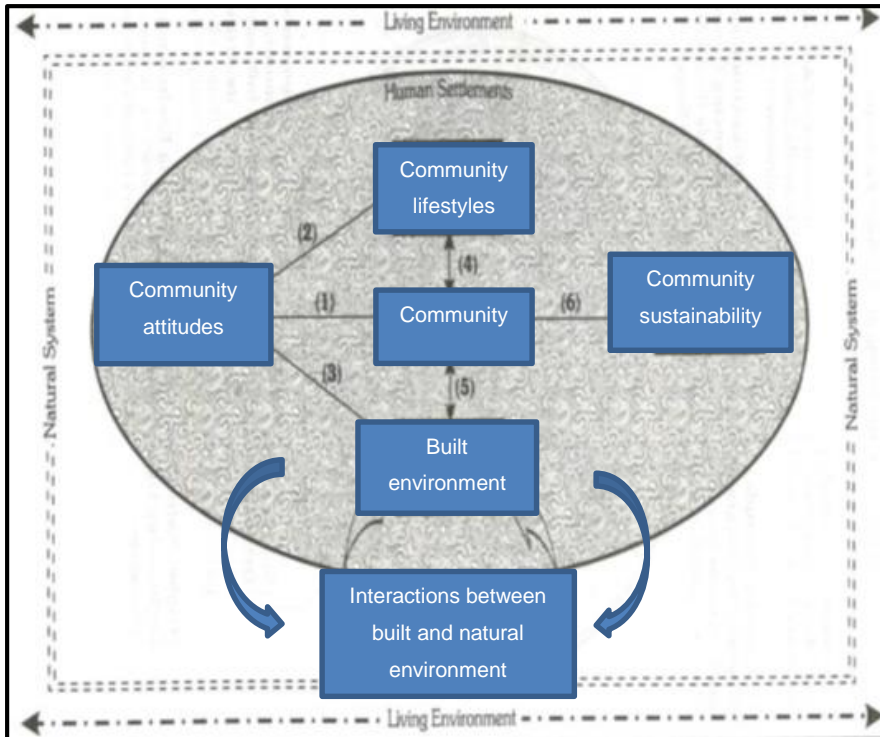


Figure 2.4 Efficient integrated human settlement planning

Source: Monto *et al* (2004d:112)

As illustrated in Figure 2.4 integrated human settlements comprises of the following generic components (Monto *et al*, 2004:112).

1. Community: This primarily represents the individuals or members comprising the community and their attributes or characteristics, such as population, size, gender divisions and income levels.
2. Community lifestyle: This represents the community's way of life and associated practices, including water and sanitation practices, and waste disposal.
3. Community attitude: This represents the prevalent attitudes of the members in the community towards various objects, issues and activities in the living environment. Numerous techniques are available to assess and characterize community attitude.
4. Built-environment: This represents the physical environment created by the community to accommodate its lifestyle. It includes features and characteristics of the built facilities, including construction modes, pavements and drainage systems.
5. Community sustainability: This represents the assessment of the community's sustainability. It involves the selection of suitable criteria (or indicators) that will form the basis for sustainability assessment.

It is important to consider the abovementioned with regards to the planning of integrated human settlements. Every integrated human settlement consist of inhabitants, these inhabitants unconsciously form a community because there bound to a certain area. Each community which consist of a natural and built area has a certain way of life, which is defined by associated practises like for example housing that is provided due to agricultural and mining purposes, while these lifestyle characteristics usually contribute to the attitudes of the community towards various objects, issues and living environments (Monto *et al*, 2004:113). Thus lifestyles, attitudes and the built environments contribute to the planning of sustainable integrated human settlements. It is important to note that every community's lifestyles and attitudes differ and therefore abovementioned is important to take into consideration with regards to successful planning and development of integrated human settlements.

As illustrated in Figure 2.5 the planning and design of integrated human settlements can be summarized by community attitudes attributed to the specific community under study, determine by the prevailing characteristics of the community lifestyles, its practises and built environment (Monto *et al*, 2004:113).The built environment interacts with the natural environment, indicating the likely future scenarios in the living environment, which has an impact on the overall planning, development and implementation of integrated human settlements. The planning and development of an integrated human settlement could be summarised as follow:

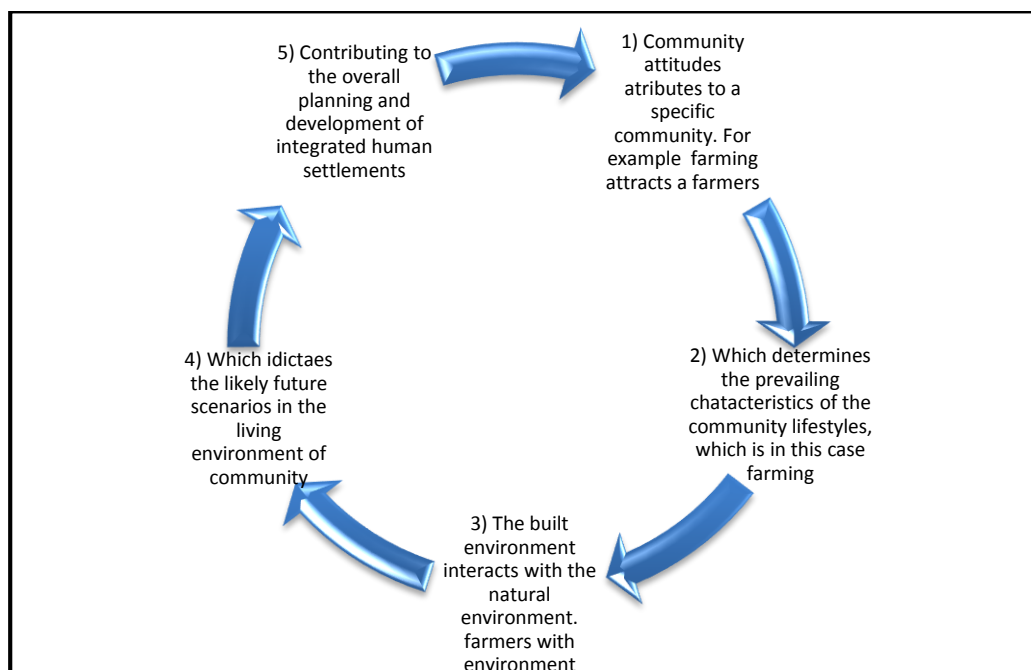


Figure 2.5 Summary of planning for an integrated human settlement
Source: Own Construction (2014)

2.4 Policies guiding international approaches with regards to integrated human settlement development

Integrated human settlement planning and development was a process which derived from unbalanced, uneconomic and unsustainable human settlement provision. International policies guided human settlement planning to a more integrated approach. Two international frameworks outweighed them all. Agenda 21 and the UN Habitats Agenda (Millennium development goals) delivered pioneering work towards the planning and development of guidelines for successful integrated human settlement delivery world-wide. As it came to the realisation that action must be taken in order to guide human settlement delivery to a more integrated and sustainable approach (UN habitat, 2004:1)

2.4.1 Agenda 21

Agenda 21 was a comprehensive plan to be taken globally, nationally and locally by organizations of the United Nations. Agenda 21 was adopted by 178 governments of the United Nations conference on environment and development held in Brazil 1992 (UN, 1992:1). Agenda 21 identified seven core issues concerning the planning and development of integrated human settlements, they were:

1. Providing adequate shelter for all,
2. Improving human settlement management,
3. Promote sustainable land use planning and management,
4. Promote the provision of environmental infrastructure such as water, sanitation, drainage and solid waste management on an integrated and holistic approach,
5. Promoting sustainable energy and transport systems in human settlements,
6. Promoting sustainable construction,
7. Promote human resource development and capacity-building for human settlement development

These, 7 fundamentals were identified by Agenda 21 as to be the main objectives with regards to the improvement of social, economic and environmental quality of human settlement delivery and the improvement of the living and working improvement of all people, in particular to the poor. Agenda 21 further stated that if governments are to contribute to these objectives partnerships must be created between private, public and community sectors and that these

objectives should form the core principles of national settlement strategies world-wide (UN, 1992: 45).

2.4.2 UN Habitat Agenda

UN Habitat Agenda was launched out of the Habitat II conference in Istanbul, Turkey on 14 June 1996 (UN Habitat, 2006:7). The UN Habitat Agenda's main aim was to promote adequate shelter and sustainable human settlements for all. The following 10 goals were recognised to help achieve this aims:

1. Creation of equitable human settlements,
2. Eradication of poverty,
3. Development and improvement of human settlements to be sustainable,
4. Improvement of quality of life,
5. Strengthening of the family as a unit of society,
6. Generation of citizenship,
7. Creation of partnerships,
8. Creation of solidarity,
9. Protection in the interest of present and future generations
10. Promotion of human health and quality

The UN Habitat agenda particular identified these aims as a response to the needs with regards to human settlement delivery internationally. These aims could be utilised by governments to guide the overall human settlement delivery approach to a more sustainable and integrated approach

The empirical investigation (Chapter), will further explore these objectives and measure it against other international and national policies objectives with regards to planning and development of integrated human settlements with the aim to identify and evaluate sustainability.

2.5 Conclusion

The aims of this chapter was to clarify the definitions of human settlements and integrated human settlement provision, the planning and development of integrated human settlements.

Key issues were identified from the human settlement approach as applied internationally and locally, stating that human settlements are more than just housing delivery incentives, but rather well managed entities where natural and built environment are in balance with each other.

International policies, such as Agenda 21 and the Un Habitats Agenda were discussed in order to illustrate the contributions it had towards the creation of integrated human settlements as well as the transition in human settlement delivery approaches.

Key issues based on this chapter

- Efficient Integrated Human Settlement planning and model formulation
- The identification of International policies which promoted and guided integrated human settlement delivery.

Chapter 3 will accordingly provide more background of the human settlement delivery approaches followed in South Africa, along with the transition of human settlement delivery from an fragmented and unsustainable approach to a more integrated and sustainable approach.

CHAPTER 3

HUMAN SETTLEMENT DELIVERY IN SOUTH AFRICA

3.1 Introduction

Over the last 20 years many housing policies have adapted due to poor levels of service delivery, perceived by government (Odeku, 2011:1). Although government has made significant progress in meeting many service delivery challenges, much needs to be done to address housing problems that still exist, such as the ever rising housing demand. The United Nations estimates that (71.3%) of the South African population will live in urban areas by 2030, reaching nearly (80 %) by 2050 (IUDF, 2014:5). Approximately 10 million historical disadvantaged South Africans still live in slums that lack basic shelter, drinking water, sanitation, solid waste disposal, electricity and safe and affordable transportation schemes (Odeku, 2011:1). Various policy and legislative frameworks has been designed to address on the shortcomings of the RDP module. The allocation and provision of housing are still of the biggest service delivery problems in South Africa. Figure 3.1 illustrates the structure of this chapter, as will be addressed accordingly:

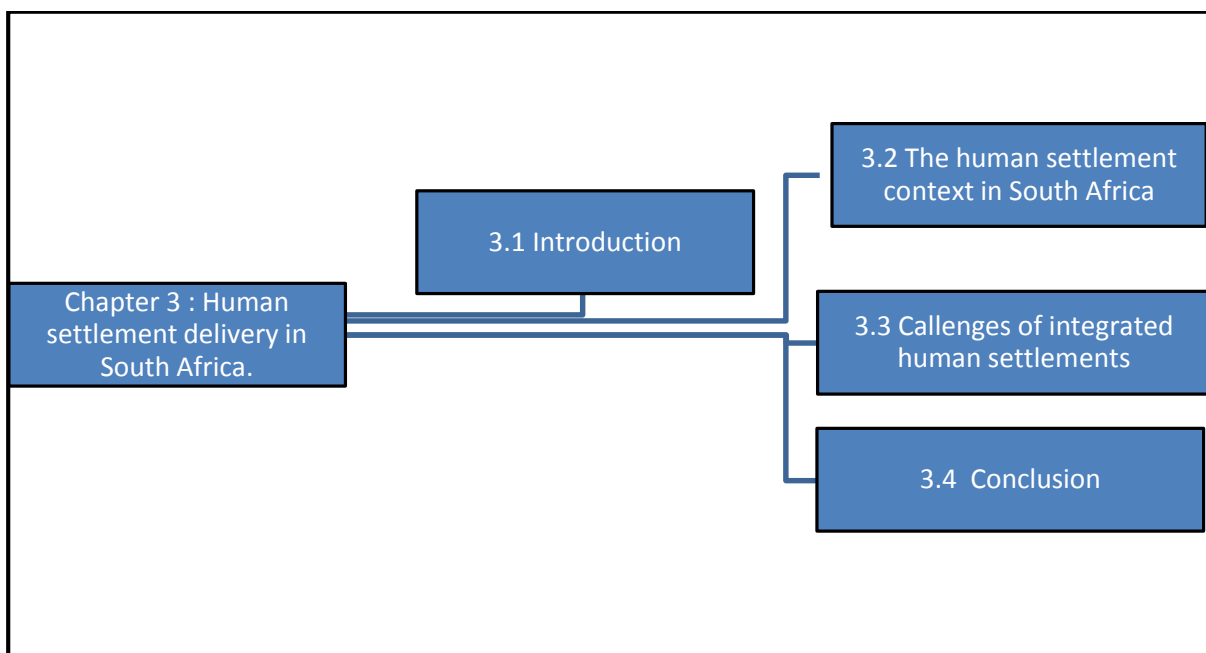


Figure 3.1 Layout of Chapter 3

Source: Own Construction (2014)

3.2 The human settlement context of South Africa

Human Settlement delivery is a highly politicised issue, especially in developing countries such as South Africa, which experience rapid urbanisation (Burgoyne, 2008:2). The Minister of Housing Tokyo Sexwale stated the importance of housing delivery” It is about the availability of land, about access to credit, about affordability, about economic growth, about social development, about the environment” (SA,2004:1). Housing also complies in close relation to access of service and infrastructure, because without these services the provision of housing will be worthless (Burgoyne, 2008:2)

Housing the nation is one of the greatest challenges facing the local governments in South Africa. The extent of the challenge derives not only from the enormous size of the housing backlog and the desperation and impatience of the homeless, but stems also from the extremely complicated bureaucratic, administrative, financial and institutional framework inherited from the previous government (SA, 1994:1). The provision of housing is a very complex system, especially in South Africa .Characterised by a swiftly growing urbanised society, the Apartheid history and uneven racial settlement patterns, (IUDF, 2014:5). Uneven racial settlement patterns forced the majority of non-white South Africans, to certain areas far from economic opportunities, which usually located on the periphery of urban centres, excluded from basic services such as infrastructure and working opportunities (Nemawavhandu,2008:iv).

According to the White Paper on Housing (1994), the challenge of extended households and circulatory migration further add to the difficulty of addressing the housing issue (ANC, 1994). The consequences of the housing backlog are obvious and manifested in overcrowding, informal settlements, increasing land invasions in urban areas, and generally the poor access to services in rural areas (Burgoyne, 2008:2). Additionally, the backlog spawns individual and public insecurity and frustration in both the social and political arenas. This adds significantly to the extreme levels of crime and volatility life in many communities in South Africa (White Paper on Housing, 2004). Insecure tenure is unquestionably one of the prominent features and causes of the housing crisis in South Africa (Luyenge, 2011:14).

Furthermore, large inequalities exist in housing environments between rural and urban areas, between different urban areas, as well as between different provinces (Luyenge 2011:14). This is exacerbated by the fact that many South Africans are not financially able to provide for their own housing needs, such as low-income families which forms a large proportion of South Africa's population (SA, 2001:2).

These constraints provide a brief synopsis of the scope and extent of the South African housing challenge. “However, all of them are dwarfed by the single most significant constraint to the housing delivery process, that of affordability” (SA, 2001:2).

3.3 Challenges of Integrated Human Settlements in South Africa

Due to South Africa’s rich political background the human settlement environment is confronted with various challenges some which can be dealt with in short term, while others require a long term approach (SA, 2012:5). The challenges range from economic constraints to shortage of professional skills. According to the Western Cape government (2012, 6) the Integrated Human Settlement Five year Strategic Plan identified five core challenges to address the successful implementation of human settlement delivery in South Africa in the next five year period (2016 to 2021) , these challenges includes:

- **Addressing the housing backlog:** South Africa’s rising backlog remains the biggest stumbling blocks for government. Currently South Africa’s housing backlog is estimated at approximately 2.1 million housing units, which consist translates into approximately 12.5 million people (SA, 2011:2). Since 1994, 3.7 million housing units has been provided to the poor, which is a good indication of what still needs to be done in order to provide basic shelter for all (SA, 2014:68).
- **Insufficient human and financial support:** One of the major concerns facing housing delivery in human settlement world-wide is the lack of economic incentives and insufficient financial support (UN, 2004:4). The lack of aforementioned leads to a lack of proper decision making procedures, organisational structures and uncertainty in future ownerships of housing sectors (SA, 2012:5). The current housing mandates restrict subsidies to household earning less than R 3 500 per month. Medium income groups earn between R 3 500 and R 7 500 per month, which means that medium incomers fall in the gap of not earning enough to qualify for a loan and earning too much money to qualify for subsidies (SA, 2004:2). This creates a major concern as there are no housing subsidies which supports medium income groups.
- **Shortages of professional skills:** South Africa’s skills shortages are widely regarded as a key factor preventing the achievement of targeted growth areas (Erasmus & Breier, 2012:1). There is some dispute as to the nature and extent of these shortages, given that the country has a large pool of unemployment graduates. On the local front of the many of the high-level skills shortages in this country are blamed on the education systems, which is struggling to overcome decades of “neglect and dysfunction” under apartheid,

when the education of black people was underfunded and of poor quality. Aforementioned contributed to a low percentage of matriculates' who have the necessary grades and subjects too access study fields like engineering, medicine and accounting (Erasmus & Breier, 2012:1).

- **Creating long term planning integration approaches:** Providing housing for citizens is one challenge, but aligning housing delivery with city growth options and transportation plans creates a whole new dilemma (SA, 2004:39). Due to apartheid constraints the development of housing followed a low density segregated approach. Housing was developed and provided based on race with white people located near the central business districts and black people located on the outskirts of towns (SA, 2004:40). Most of these settlements, because of its location didn't receive proper services and provision of basic services such as water, electricity and sanitation. Most of these settlements are located on formal state lands which makes it difficult to access by car due to undeveloped roads and transportation services (SA, 2004: 40). It is therefore crucial that a clear distinction is made between short term and long term planning integration approaches and what role short and long-term planning play in the development of integrated human settlements.
- **Addressing the increasing gap between Urban and Rural Integrated Human settlement delivery:** One of the biggest challenge identified within in 3rd world countries such as South Africa is the increasing gap in housing provision between urban and rural areas (SA, 2004:39). Stipulated in the human settlement vision 2030 was that government aims to provide housing and basic services for both rural and urban areas by 2050 (SA, 2004:41). :

These challenges mentioned above effects the planning and development of successful integrated human settlements in South Africa dramatically. Although there is an ever increasing gap between urban and rural integrated human settlement delivery patterns, the challenges tends to be similar. These challenges will be discussed furthermore in this research and solutions will be given to not only address these challenges, but to also give guidelines on how to solve these problems with regards to sustainable integrated human settlement delivery.

3.4 Conclusion

In order to ensure that human settlement delivery in South Africa functions optimally challenges, as was captured in this Chapter, needs to be addressed. As human settlement

delivery in South Africa are not only limited to housing delivery alone, it is important that government strive to align long term housing integration and planning.

Key issues based on this chapter

- Approximately 10 million South Africans still lives in slums that lack basic service delivery drinking water, sanitation, electricity and safe and secure transportation schemes
- Human settlement delivery in South Africa is a highly politicised issue
- Large inequalities exist between urban and rural human settlement delivery

Discussed in the following chapter is a brief index of all the policies which contributed to more effective human settlement planning and delivery within South Africa and the development of the concept of integrated human settlements.

CHAPTER 4

POLICIES GUIDING HUMAN SETTLEMENT DELIVERY IN SOUTH AFRICA

4.1 Introduction

Human settlement delivery in South Africa is a highly politicised issue. This chapter captured the relevant policies and legislative frameworks which had an impact on the paradigm shift (as mentioned in Chapter 2) with regards to housing delivery in South Africa from the pre-apartheid housing delivery schemes to the status quo.

4.2 Policies: Guiding the planning and provision of integrated human settlements in South Africa

The policies and legislations that impacted on the transition in human settlement delivery, as will be described accordingly for purposes of this research, include in chronological order:

- RDP (Reconstruction and Development Plan) (1994)
- DFA (Development Facilitation Act) (1995)
- Green paper on the development and planning (1999)
- White paper on spatial planning and land use management (2001)
- Breaking New Ground (2004)
- National Development Plan (2011)
- RDS (Rural Development Strategy) (2011)
- SPLUMA (Spatial Planning and Land Use Management Act) (2013)
- IUDF (Integrated Urban Development Framework) (2014)
- CSIR guidelines (contributed to effective fundamentals and to guide the development of integrated human settlement formulation (2014)

4.2.1 The Reconstruction and Development plan (1994)

The RDP (Reconstruction and Development Programme) was developed by the South African government to address problems to post-apartheid conditions in South Africa (O'Malley, 1994:6). The RDP seek to mobilise resources toward the eradication of apartheid and the building of democratic, non-racial and non-sexist future (O'Malley, 1994:6). The RDP consisted of six basic principles: to be an integrated and sustainable programme, is a people driven process, creates peace and security, is a nation building process, act as a linkage between reconstruction and development and the strive for democratisation of South Africa.

These six principles linked together is the philosophy that underlines the whole RDP (SA, 1994: 1).

The main ideologies of the RDP was based on meeting basic needs, development of human resources, building the economy and democratising of state and society. These principles formed the building blocks of the RDP and contribute to the start of the paradigm shift from a political approach to a people driven approach. The RDP had the right principles in tact to create a housing delivery scheme that would have produced sustainable housing, but unfortunately the execution of the RDP was not up to standard and contributed to issues like fraud and political transformation. Government was forced to develop a new policy regarding housing delivery and the Development Facilitation Act was the answer (SA, 1995:1)

4.2.2 Development Facilitation Act (1995)

The Development and facilitation act (DFA) was implemented by government to facilitate and speed up the shortcomings of the reconstruction and development program, which was to facilitate the formulation and implementation of development objectives with regards to short comings of the reconstruction and development program (SA, 1995:1). The Development Facilitation Act of 1997 was an approach where local governments were forced to develop integrated planning systems; accelerate land development, as well as, improve the coordination within different spheres of government (SA, 1999:2).

4.2.3 Green Paper on Development and Planning (1999)

The Green Paper on Development and Planning was an approach by the South African Government to improve and renew the fragmented planning systems of the RDP. The objective of the Green Paper was to provide a balanced urban and rural spatial system, to improve coordination between national, provincial and local governments (SA, 1999:2). The huge demand for housing forced spheres of government to create policies based on the DFA to coordinate and integrate developing processes to enhance capacity and fast track development processes to address the demand set by public. These fast track approaches combined with better management systems formed the basis and starting point of the Green Paper on Development and planning and provided guidelines for the White Paper regarding the land use management processes (SA, 1992:2).

4.2.4 White Paper on Spatial Planning and Land use Management (2001)

The White Paper was implemented in 1999 based on the objectives of better management systems set in the Green paper of development and planning of 1999. The White Paper used these objectives and developed norms and principles to improve spatial planning and land

use management schemes across the different spheres of government, taking into account both the comments submitted by the Green Paper on different government spheres, as well as, intervening new legislation, most notably the Municipal Systems Act (SA, 2001:4). This new legislation consist of sustainable land development where land is utilised in terms of law, promoting equality by improving community participation regarding land use management, promoting effectively by developing more compact cities and reduce distance between living and working space, promoting integration between all economic sectors and different races and providing good governance systems where all people has the right to information regarding planning and land use management. (SA, 2001:6). The White Paper on Spatial Planning and Land use Management act of 1999 created the platform for the development of the BNG (Breaking New Ground) policy which was totally committed to a new vision in housing delivery.

4.2.5 Breaking New Ground (2004)

The Breaking New Ground (BNG) was seen as comprehensive plan for housing delivery to enforce more effective and responsive housing delivery by focusing on the redirecting and enhancement of existing policies (SA, 2004:1). The vision of the BNG was to develop an integrated society contributing to sustainable human settlements and quality housing (SA, 2004:17). The BNG was also totally committed to job creation through the utilisation of housing provisions, improvement of economic opportunities, seeking present and future sustainable human settlements, combat crime, creating wealth, providing medical treatments and creating social cohesion between inhabitants (SA, 2004:19). It is evident that the BNG was committed to people's needs in terms of human settlement delivery and is therefore in strong correlation with the aim of this research in seeking sustainable human settlements.

The Breaking New Ground policy also played an immense part in the planning and developing of inclusionary housing policies as well as integrated human settlements on behalf of creating job and economic opportunities, while catering for the housing demands set by communities in South Africa. The comprehensive plan for the development of sustainable human settlements approved on 1 September 2004, represented a paradigm shift for the national housing programme. Having achieved the initial housing delivery targets, government shifted its development focus towards addressing settlement inefficiencies through the development of integrated human settlements which contribute towards more compact settlement form and provided a range of housing and social economic opportunities (SA, 2004: 19-20).

The fundamentals of integrated human settlements were firmly rooted in the BNG framework which government delivered in 2004. After the 1994 elections, government committed itself

to the developing of more liveable, equitable and sustainable human settlement (SA, 2004:5). Fundamentals of the BNG included pursuing a more compact urban form, facilitating higher densities, mixed land use development and integrating land use and public transportation networks. The vision of the BNG was to develop an integrated society through contributing to sustainable human settlements and quality of housing (SA, 2004:17). Aims of The BNG principle can be summarised as follows.

- Provide basic services and develop infrastructure
- Provide Economic growth and development
- Build sustainable communities
- Build safe and secure communities
- Provide Good Governance

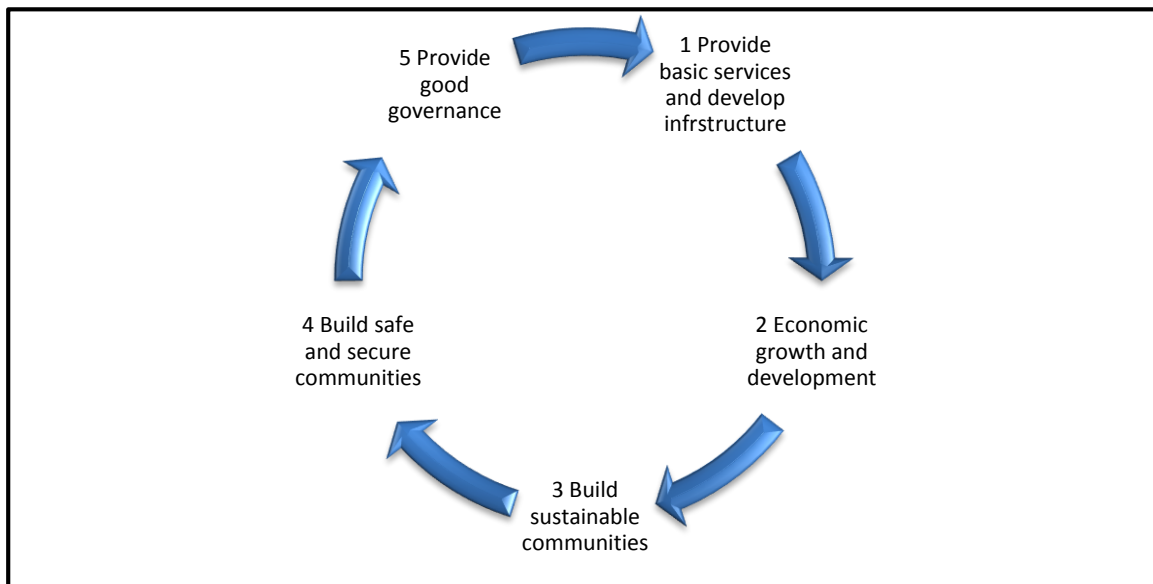


Figure 4.1 BNG strategic objectives to improve sustainable integrated human settlement delivery

Source: Own Construction (2004)

As illustrated in Figure 4.1 the Breaking New Ground policy was an on-going process of ways to foster a change in the way that human settlements was delivered in South Africa. Product uniformity, mass housing delivery and unsustainable spatial restructuring was in the order of the day, which forced low cost housing delivery further and further away from social, economic and environmental opportunities. The Breaking New Ground Policy was developed in approach to these shortages, with the aim to better integrated human settlement delivery standards in South Africa by creating (SA, 2004:3).

- Interactions between a variety of experiences including income, ethics, race equality and expertise.
- Engaging people in the understanding of sustainability concepts and how public participation create successes of the community and;
- By the creation of broad involvement between participants from all sectors and expertise.

The Breaking New Ground Policy stated the importance that provincial and local governments must emphasise the importance of equality especially with regards to race, gender, income levels, cultural and identification of sustainability indicators (SA, 2004:3).

The BNG principle also found that public participation plays a major role in the developing of successful human settlements and is therefore a very important fundamental to adhere to. To ensure that sustainable integrated human settlements are to be sustainable it is important to engage people in the understanding of sustainability concepts and how important the role of public participation plays, in the successful identification of sustainability indicators. .

The Breaking New Ground policies played a huge part in the transformation of human settlement delivery schemes and policies in South Africa (SA, 2004:1). It was the policy that started to give meaning to human settlement delivery especially low to medium cost housing delivery it was also the first incentive which indicated the importance of an integrated approach with regard to human settlement delivery in terms of social, economic, environmental and political parties

4.2.6 National Development Plan (2011)

The NDP was implemented to promote a new path for South Africa. The immediate short term goals of the National Development Plan was to eliminate poverty and reduce inequality by 2030. Furthermore the NDP seek to mobilise a country where all citizens have the capabilities to grasp the ever-broadening opportunities available (SA, 2011:1).

4.2.7 Spatial Planning and Land Use Management Act (2013)

The Spatial Planning and Land Use Management act (SPLUMA) was implemented by the South African government in 2013 with the aim to provide a framework for spatial planning and land use management. SPLUMA's aim was to provide a framework for the monitoring, coordination and review of the spatial planning and land use management system as well as to provide the facilitation and enforcement of land use and development measures. (SA, 2013:2). SPLUMA laid a firm foundation for integrated human settlement delivery in South

Africa with regards to the effective implementation of spatial planning and land use management. With the implementation of SPLUMA the Development Facilitation Act (1995) was repealed, was the only post 1994 piece of legislation that dealt with spatial development principles and the provision of land use mechanisms.

4.2.8 Integrated Urban Development Framework (2014)

The IUDF was designed to unlock the development synergy that comes from coordinated investments in people and places. Furthermore the policy framework aimed to guide the development of inclusive and liveable human settlements, while addressing the conditions facing cities and towns in South Africa (IUDF, 2014:5).

4.2.9 Rural Development Strategy (2014)

The Department of Rural development and Land Reform introduced the Rural Development Strategy with the aim to create vibrant, equitable and sustainable rural communities. (RDS, 2011:7). The Rural Development Strategy was a response to the alarming facts within rural areas in that of extremely underdeveloped economic societies (RDS, 2011:5).

4.2.10 CSIR guidelines (Council for Scientific and Industrial Research)

The CSIR developed a framework called "sustainability analysis of human settlements" which the department of housing used as a guideline to foster and accommodate challenges which human settlements faced to poor housing delivery and pre-apartheid schemes (Du Plessis & Landman, 2002:4). The framework developed by CSIR led as an example for the government to effectively monitor the sustainability of human settlements and contributed to the realisation that human settlements in South Africa are more than just housing delivery.

Abovementioned policies and legislations played contributing roles in the transition in human settlement delivery in South Africa. This transition contributed that governments realised the need for an integrated approach for human settlement delivery. A summary of each framework's contribution towards housing delivery in South Africa is seen in Table 3.1.

4.3 Conclusion

The provision of housing in South Africa has been of great concern over the last few years, despite the delivery of almost two million housing units since 1994. Currently there is still a high demand for housing by South African citizens (Manuel, 2011:233). Figure 3.3 illustrates the key policies and legislative frameworks which contributed to the transition of human settlements in South Africa from an unbalanced approach to a more sustainable and balanced

approach. These policies were essential and contributed to the paradigm shift that was needed in order to create a platform for the development of integrated human settlements.

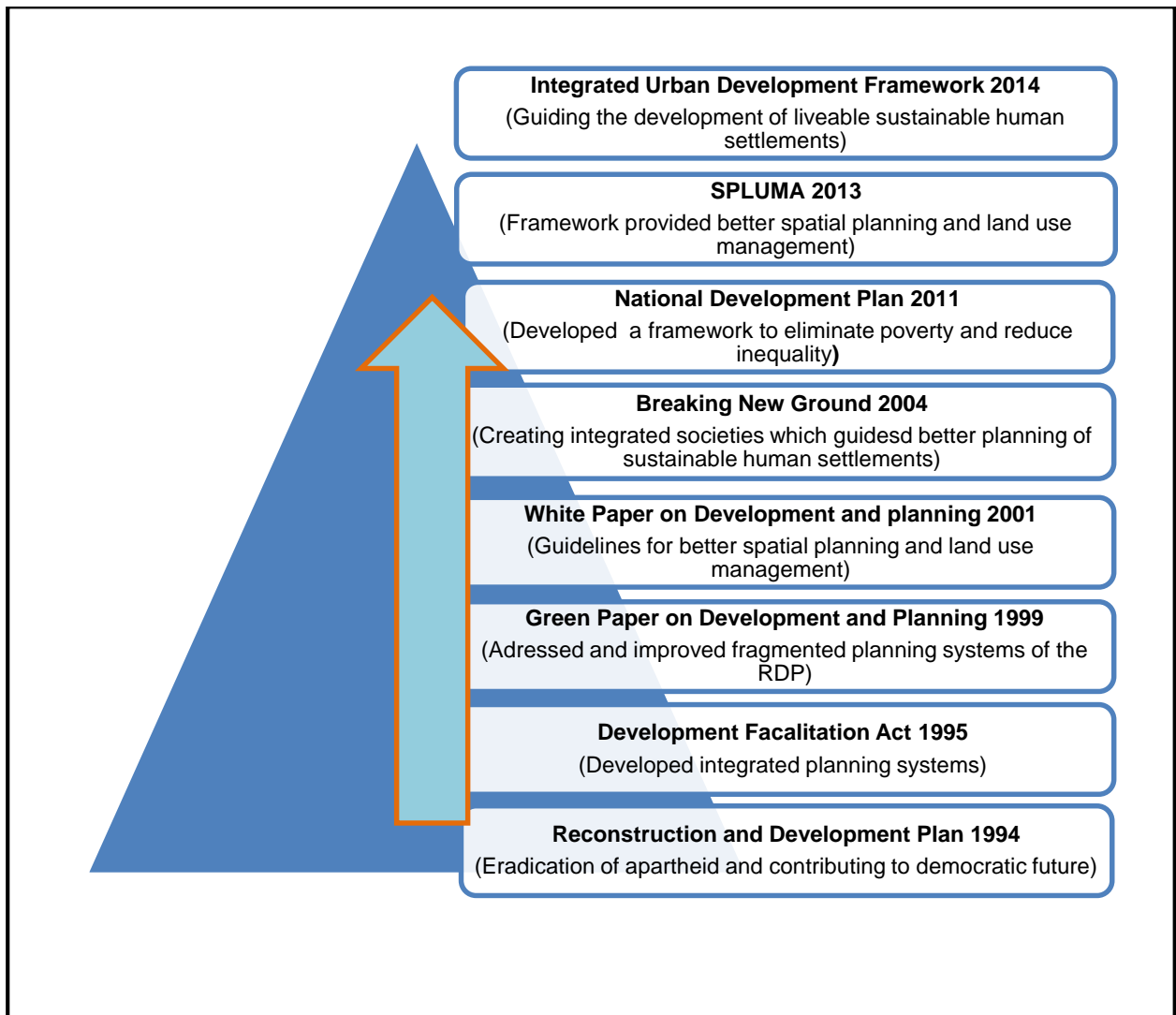


Figure 4.2 Key policies and legislations guiding planning and development of human settlements in South Africa

Source: Own Construction (2014)

Table 4.1 captures the core focus of each policy and legislation captured in this chapter in an attempt to illustrate the impact thereof in terms of the paradigm shift seen in human settlement delivery in South Africa since 1994.

Table 4-1 Policies and legislations contributing to the paradigm shift in human settlement delivery

Policy and legislation	Core focus	Contribution to paradigm shift in provision of human settlements
RDP (1994)	The RDP seek to mobilise resources toward the eradication of apartheid and the building of democratic, non-racial and non-sexist future (O'Malley, 1994:6).	The RDP was developed to address problems concerning post-apartheid conditions
DFA (1995)	Implemented to facilitate and speed up the implementation of the reconstruction and development plan.	Developed integrated planning systems
Green Paper on Development and Planning (1999)	Developed to improve and renew fragmented planning systems provide a balanced urban and rural spatial system	Developed integrated planning systems, accelerate land development, improve coordination between different spheres of government
White Paper on Spatial Planning and Land use Management (2001)	Developed to improve norms and principles to address spatial planning and land use management schemes across the different spheres of government	Introduction of sustainable development by focusing on: Promoting public participation, developing more compact cities and reduce distance between living and working space
Breaking New Ground (2004)	Goals of BNG was to develop an integrated society contributing to sustainable human settlements and quality housing (SA, 2004:17).	The BNG was committed to job creation through the utilisation of housing provisions, improvement of economic opportunities, seeking present and future sustainable human settlements, combat crime, creating wealth, providing medical treatments and creating social cohesion between inhabitants (SA, 2007:19).
NDP (2011)	The NDP seeks to mobilise a country where all citizens have the capabilities to grasp the ever-broadening opportunities available and strife to eliminate poverty and reduce inequality by 2030.	The NDP empowered the realisation that every inhabitant has the capabilities of working opportunities, has the right to stay in a house and has the right to equality no matter what race or income.
SPLUMA (2014)	SPLUMA was implemented by government in 2013 with the aims to provide a framework for spatial planning and land use management in South Africa	SPLUMA's aims was to provide a better framework for the monitoring, coordination and review of the spatial planning and land use management systems especially with regards to human settlement provision in South Africa.

Policy and legislation	Core focus	Contribution to paradigm shift in provision of human settlements
Integrated Urban Development Framework (2014)	The IUDF was designed to unlock the development synergy that comes from coordinated investments in people and urban places	The IUDF was particularly focused on integration between urban human settlements in creating principles to address economic, social and environmental development within urban human settlements
Rural Development Strategy (2011)	The RDS was implemented by government to create vibrant, equitable and sustainable rural communities	The development within rural areas were always underdeveloped due to a lack of proper decision making and financial constraints, the RDS was introduced as an response to these constraints in taking rural human settlement delivery forward

Source: Own Construction (2014)

Integrated Human Settlements were the first housing delivery initiative that was fully committed to the delivery of housing while seeking to provide working opportunities within the community itself (SA, 2013.13). This emphasize the role of human settlement delivery in South Africa as an instrument to provide social, environmental and economic opportunities in an integrated environment and not just as an instrument for housing provision.

There is a need to guide integrated human settlements to be more sustainable and to successfully implement the objectives as captured in the various policies and legislations.

Key issues based on this chapter:

- Human Settlement delivery in South Africa is an highly politicised issue
- Indicating the paradigm shift in human settlement delivery in South Africa
- Most policies promoted affordable housing for all as well as job creation as short and long term aims.

The following chapter will comprise of an in depth study of sustainability, and the role thereof within Integrated human settlement delivery approaches.

CHAPTER 5

UNDERSTANDING THE CONCEPTS OF SUSTAINABILITY AND SUSTAINABILITY INDICATORS

5.1 Introduction

Governments face many difficult decisions with regards to meeting basic needs, the creation of justice and wellbeing, the protection of environments for future generations (SA, 2011:1). Worldwide countries came to the realisation that a framework is needed to guide such decisions and future planning initiatives. International policies such as the UN Habitat Agenda and the Millennium Development goals as discussed in Chapter 2 indicated that the identification of sustainable development indicators can be useful to address the problems with regards to integrated human settlement delivery. Figure 5.1 illustrates the structure of this chapter, as to be addressed accordingly:

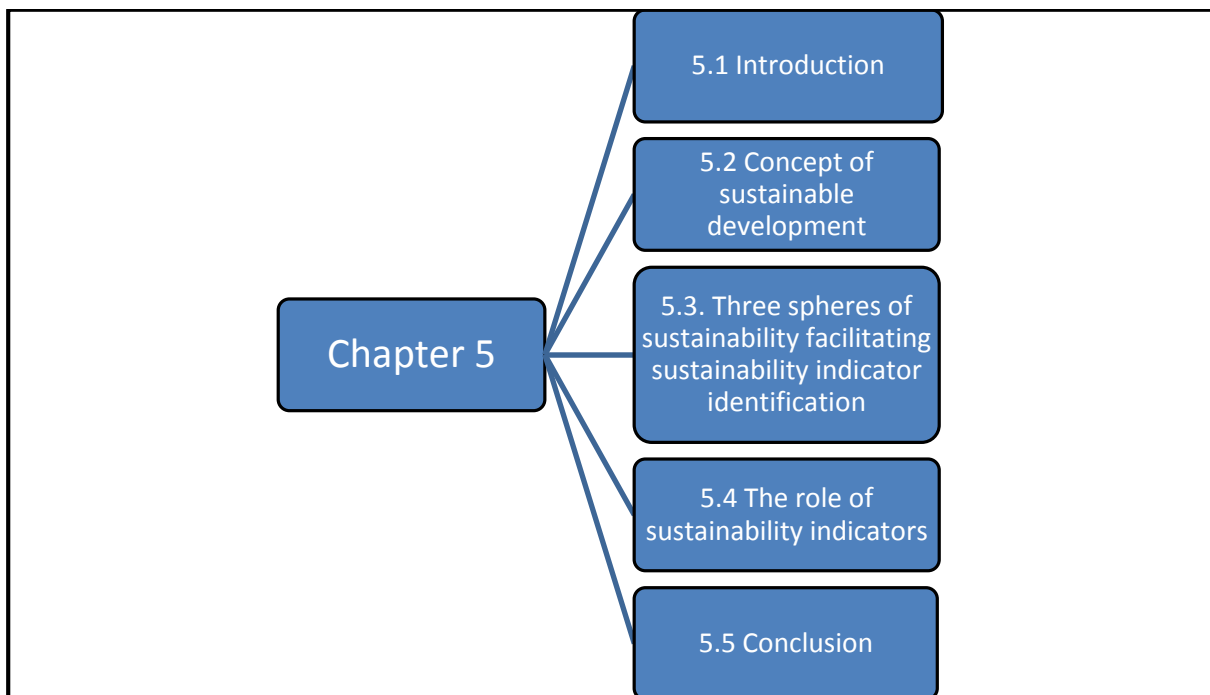


Figure 5.1 The structure of Chapter 5

Source: Own Construction (2014)

Throughout this research it is emphasized that integrated human settlement delivery is more than housing delivery, but also includes the provision of economic, social and environmental needs on a sustainable and integrated manner. Sustainable development is the basis of an integrated human settlement and it is therefore important to fully comprehend the term

sustainable development especially with regards to the sustainability indicator identification approach which follows in Chapter 6 of this research.

5.2 The concept of sustainable development

Sustainable development is a key global issue underlying all aspects of human activities and developments. The paradigms of industrialisation and modernisation formed visions of the world and guided activities until a few years ago, and are now expected to be primarily responsible for the neglect of the health of living environments (Monto & Ganesh, 2005:42). There is an increasing realisation that a change is required in the way humanity perceives progress, and in the underlying guiding principles that serve as a bridge between what is ideal for sustainability and that which is practicable (Hodge and Hardi, 1997:7-20). The term sustainable development is intended “to be a means of configuring civilization and human activity so that society, its members and its economies are able to meet their needs and express their greatest potential in the present, while preserving biodiversity and natural ecosystems, and planning and acting for the ability to maintain these ideals indefinitely” (Project sustainability, 2011).

The UN conference on the environment and development defined sustainable development as those that “meet present needs without compromising the ability of future generations to meet their needs” (Brundtland, 1987:15). Brundtland (1987) stated that this well-established definition sets an ideal premise for sustainable development, but excludes key fundamentals with regards to the modelling and measuring of sustainable developments. The following definitions of sustainable development were more specific;

- “Sustainability integrates natural systems with human patterns and celebrates continuity, uniqueness and place making” (Earl, 1993).
- Sustainability “identifies a concept and attitude in development that looks at a site’s natural land, water, and energy resources as integral aspects of the development” (Vieira, 1993).

Figure 5.2 illustrates the complexity of sustainability. The economic, environment and social spheres all forms part of the term sustainability, which means if an integrated human settlement truly are to be sustainable these spheres must be present and be promoted within an integrated human settlement.

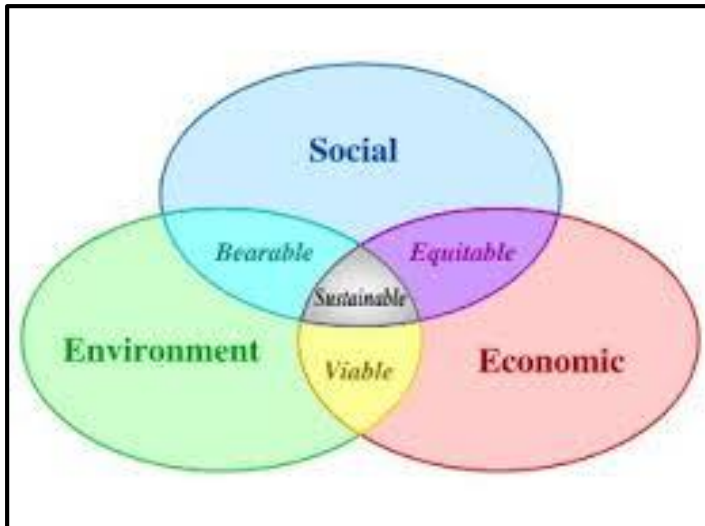


Figure 5.2 The three spheres of sustainability

Source: Foods (2011a)

As illustrated in Figure 5.2 the three main dimensions of sustainability comprises of social, economic and environmental spheres. It is essential to take these spheres into consideration during the planning of integrated human settlements as well as the identification of sustainability indicators, as will be explained accordingly.

5.3 Three spheres of sustainability facilitating sustainability indicator identification

The term sustainable development mainly comprise of three spheres, namely; social sphere, economic sphere and environmental spheres. The applicable sphere and its contribution towards the promotion of sustainable development will be discussed.

5.3.1 Social sphere

Social sustainability involves the “meeting of basic needs of all communities” (Nelson Mandela Bay Municipality, 2007:18). Social sustainability is concepts that will continue to change and evolve over time as well as be developed differently place to place. Dempsey et al (2009:293-294) stated that for a community to be sustainable the following five dimensions of sustainability need to be addressed.

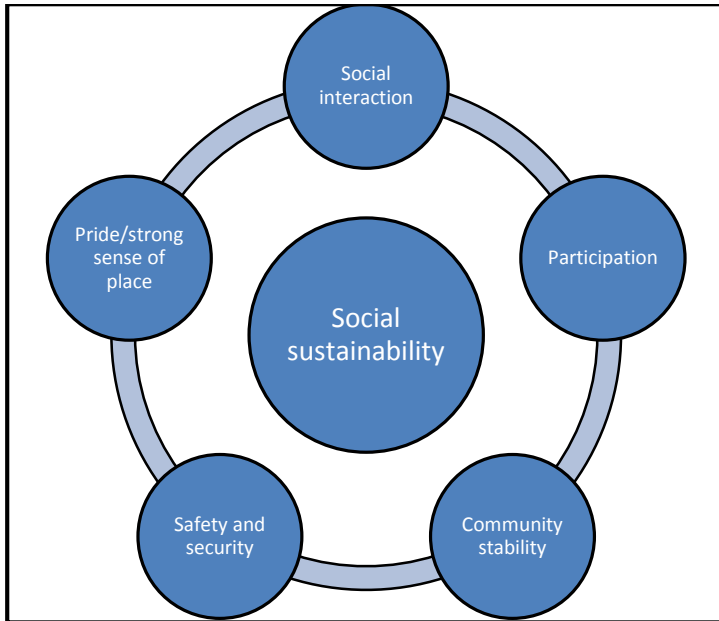


Figure 5.3 Dimensions of social sustainability

Source: Own Construction from Dempsey et al (2009:294)

Figure 5.3 illustrates that the sustainability of a community relates to the joint aspects of social life (Dempsey et al, 2009:294). As mentioned in Chapter 2 and illustrated in Figure 5.3 the importance of community attitudes and lifestyles plays a leading role in the development of integrated human settlements as well as the identification of sustainability indicators. Community participation, safety and security, social interactions and a strong sense of place are all contributing factors within the development of a healthy social environment.

5.3.2 Economic sphere

Current growth patterns are deeply inefficient, which results in unsustainable economic development approaches (World Bank, 2012a:1). In order to address these unsustainable approaches rapid economic growth is needed to meet the needs of the world 's poor, but this too will contribute to an unsustainable human settlement delivery approach (World Bank, 2012a:5). To ensure economic sustainability, in particular, towards integrated human settlement delivery housing delivery must be seen as a way to enforce economic and social development. The World Bank (2012a:1) states that over the past two decades it has been shown that economic and social goals of sustainability are highly compatible and complimentary to each other. As mentioned in Chapter 2 an integrated human settlement must comprise of a well-managed entities in which economic growth and social development are in balance, resulting in sustainable development, wealth creation, poverty alleviation and equity” (UN Habitat Agenda,2004:1).

5.3.3 Environmental Sphere

Goodland and Daly (1996:1003) say that “although environmental sustainability is needed and originated because of social concerns, environmental sustainability itself seeks to improve human welfare and social sustainability by protecting the sources of raw materials used for human needs and ensuring that the sinks for human waste are not exceeded”. They also argue that in order to establish environmental sustainability humanity must learn to live within the boundaries of the environment, both as provider of resources and as refuse for waste (1996:1003).

A clear view is given with regards to the contribution of each sphere responsibilities in the creation of sustainable development, integrated human settlements and more particular towards sustainability indicator identification. As illustrated by Figure 5.4 the three spheres of sustainable development must function in harmony with each other and must contribute to an integrated approach in order to promote sustainable development within integrated human settlements.



Figure 5.4 Spheres of sustainable development

Source: World Bank (2012a:2)

In order to address sustainable development within an integrated human settlement a framework needs to be created where sustainability can be measured on a continuous basis to ensure that social and economic needs are addressed and does contribute to an integrated

approach while in harmony with the overall environment. As sustainability plays such an important role in the development of integrated human settlements a sustainability indicator identification approach was identified as part of this research as a way to identify, measure and promote sustainable development within an integrated human settlement.

5.4 The role of sustainability within Integrated Human Settlements

According to (Hart, 2010) “*Sustainable indicators can be defined as ways to measure how well the community is meeting the needs and expectations of its present and future needs in terms of the community*”. Sustainable indicators are a relatively new phenomenon introduced in 1992 at the Rio conference on Environment and Development where the need was recognised for better ways to gather knowledge and information about environmental conditions, trends and impacts of developments on the environment (Segnestam, 2002:5). A sustainable indicator is an indication of where sustainability in terms of human settlement delivery are, where sustainability are going and how far sustainability is with regards to successful provision of sustainable development within an integrated human settlement (Simon, 2003:1).

For a community to progress towards sustainability, it is important to have some means to assess progress and monitor performance (Monto *et al.*, 2005:42). Indicators provide the means to evaluate and enable sustainable development within integrated human settlements. Sustainability indicators essentially reveal or highlight the state of changes in a system (Olsen *et al.*, 2004:2). Sustainability indicators also serve as a tool that assists in education, assessment, monitoring, accountability and strategic planning; they sound alarms, reflect successes and identify opportunities leading to better and smarter decisions making (Goodland & Baily, 2008: 24). Indicators provide feedback to decision makers, researchers and the public community about the past and likely trends in the living environment that are shaping the future (Olsen *et al.*, 2004:3) . Sustainability indicators often reveal the systematic linkages that are often overlooked (Clayton and Radcliffe, 1996:10). Abovementioned states the importance which a sustainability indicator plays towards the creation of sustainable development within integrated human settlements.

Over the last decade problems in human settlement delivery derived as a process of insufficient long term planning (SA, 2004: 2). As mentioned in Chapter 3 problems such as the housing backlog, insufficient human and financial support and shortages of professional skills weren't identified soon enough which lead to an unsustainable human settlement delivery approach (SA, 2004:2). As mentioned in Chapter 2 international policies such as Agenda 21 and United Nations identified this lack in planning and started to develop Millennium Development Goals, which nations could use to measure the economic, social and

environmental progress. The indicators identification process forms part of a process of identifying, rectifying and developing ways to measure the sustainability of integrated human settlements.

5.4.1 Fundamentals of sustainability indicators

In the overall indicator identification process, it is important to understand which fundamentals are underlined regarding the identification of sustainability indicators. The identification of sustainability indicators is firstly, a multidimensional process and secondly the identification of sustainability indicators inside human settlements is a systematic approach. Sustainability indicators are developed to capture or reveal changes in complex human-nature (Monto *et al*, 2005:39). Sustainability indicators provide effective guidelines based on community needs and are also useful in providing alerts on possible future disasters.

Taking above mentioned into consideration the fundamentals of sustainability indicators were identified based on international pilot studies with regards to sustainability indicator identification. The international frameworks from which the fundamentals of sustainability indicators were identified from were;

- Sustainable Seattle the world's first sustainability indicator program as well as,
- CSIR's Sustainability analysis of human settlement delivery in South Africa

- Sustainable Seattle sustainability indicator program

Sustainable Seattle was the world's first regional sustainability indicator program (Sustainable Seattle, 2004). Seattle was developed through a grass root activism program known as participatory action research where the aim was to create an integrated framework for measuring towards goals and creation of partnerships. Over the last 20 years Sustainable Seattle developed not one, but four sets of indicators, in 1993, 1995, 1998 and in 2004 (Sustainable Seattle, 2004). The vision of Sustainable Seattle was to create an interconnected group of a healthy compact, liveable urban centres, where people work together to restore and improve vitality of the communities, economy and the environment. The same implied with the aim of integrated human settlements in South Africa as it was to create communities where people can be interconnected to a healthy living environment where economic, environmental and social needs and responsibilities are addressed (SA, 2004:2).

Sustainable Seattle is an example of an organization dealing with the principalities of sustainability indicators. Since its first meeting in 1990 Seattle operated as a voluntary network and civic forum, bringing together citizens from many different sectors of the community to

promote sustainability (Sustainable Seattle, 2004). A program was launched to deal with the identification of sustainability indicators, which did not only identify sustainability indicators but also helped guiding the city towards long term sustainability (Sustainable Seattle, 1995,10). The program consisted of well-known and acclaimed organization that dealt with the identification of sustainability indicators. Seattle developed criteria for successful identification of sustainability indicators and emphasised that good indicators:

- Reflects the term sustainability in such matter that it is basic and fundamental for the long term economic, social or environmental health of the community;
- can be understood accepted by the community as a valid sign of sustainability;
- attracts the local media in monitoring, reporting and analysing the general trends of a sustainable community;
- are statistically measurable in geographic areas and preferably comparable the other cities/communities, a practical form of data collection or measurement exists or can be created;

These criteria gave a good overall reflection of what was required by a sustainability indicator to be effective within the development of integrated human settlements.

- CSIR Sustainability analysis of human settlement delivery in South Africa

In 2002, the CSIR (2002:1) conducted a sustainability analysis of human settlement delivery in South Africa. Of the 134 indicators evaluated by the United Nations Commission for Sustainable Development 74 were suitable for South Africa and 48 new indicators was accepted in the country. The CSIR (2002:13) identified 8 indicators for measuring sustainable human settlements. The CSIR used sustainability indicators previously in South Africa to evaluate sustainable human settlements with a great success, the sustainability indicators then used by CSIR, were:

- Providing shelter
- Providing health facilities
- Promoting safety and security for all
- Productive life
- Mobility and mass transport schemes
- Quality of built environment
- Basic service delivery
- Good governance

The indicators identified and used by CSIR were considered to be important as these indicators were previously used to test the sustainability of human settlements in South Africa.

5.5 Conclusion

The aim of this chapter was to give a clear understanding of definitions, fundamentals and processes with regards to sustainable development. The three spheres of sustainability were discussed to illustrate the components with regards to sustainable development. It was furthermore realised that an approach is needed in order to guide the planning and development of integrated human settlements to be more sustainable. . The identification of “sustainability indicators” were identified as a possible approach for such, measuring the sustainability of an integrated human settlement and identifying gaps for intervention.

Key issues based on this chapter:

- Sustainable development must be understood in order to even consider the identification of sustainability indicators,
- Three spheres of sustainable development form a crucial part in the guidance of overall sustainability indicator identification approaches,
Sustainability indicators could be utilised to measure the sustainability within an integrated human settlements and identify gaps for interventions.

The following chapter focusses on the “sustainability indicator identification approach” and aim to identify sustainability indicators that can be applied in local context. Indicators were identified from the objectives of international and national policies and frameworks, along with international and local best practices.

The five core concepts of integrated human settlement delivery where used as a point of departure, including:

- Provision of housing
- Economic development
- Environmental management
- Provision of good governance and,
- Social development

CHAPTER 6

EMPIRICAL INVESTIGATION: EVALUATING THE SUSTAINABILITY OF LOCAL INTEGRATED HUMAN SETTLEMENTS

6.1 Introduction

As illustrated in Figure 6.1, Chapter 6 will be comprised accordingly:

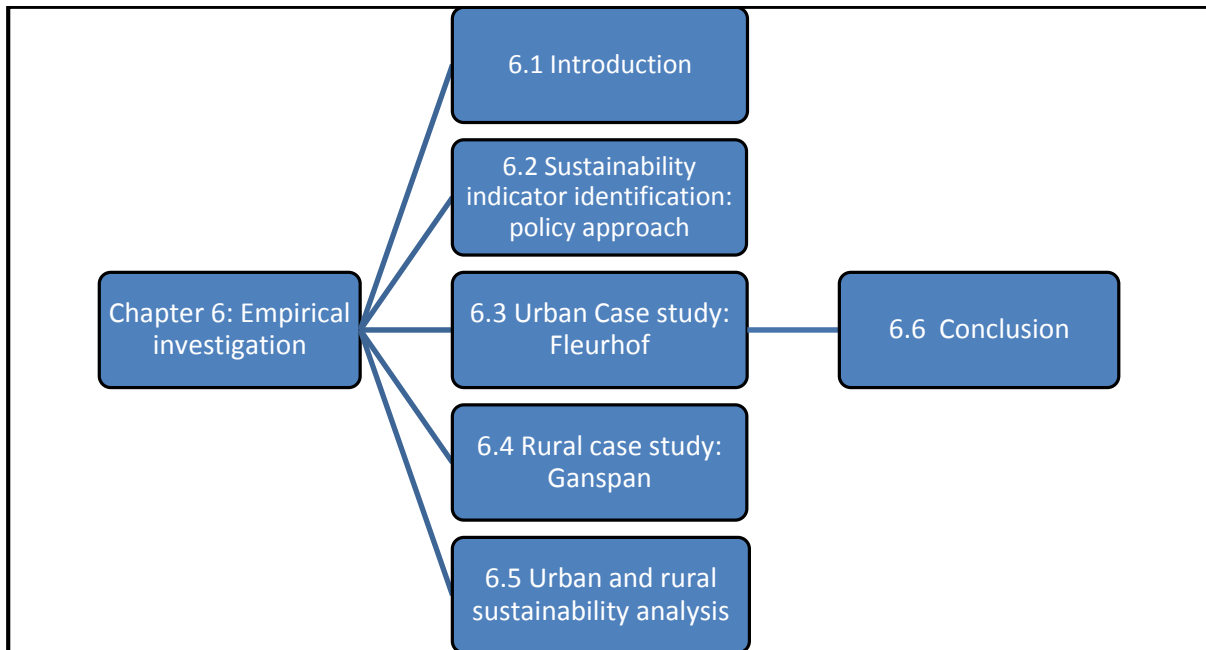


Figure 6.1 Layout of Chapter 6

Source: Own Construction (2015)

Fundamentals of integrated human settlement delivery, sustainable development and sustainability indicators were discussed throughout this research as captured in Chapter 2, 3 and 4 of this research. Emphasis was placed on the enhancement of integrated human settlement delivery in South Africa, and it became evident that the development and growth strategies in terms of integrated human settlement delivery and the sustainable development thereof tends to differ between urban and rural approaches. As a response, two case studies namely Fleurhof (urban) and Ganspan (rural) were selected as part of this empirical investigation, with the aim to evaluate the sustainability of these two local human settlements, and to identify gaps within current approaches of providing integrated human settlements.

The empirical investigation was based on two main pillars; firstly section 6.2, the identification of sustainability indicators and secondly section 6.3, case study evaluation based on the

sustainability indicators. The aim of section 6.2 is to identify relevant sustainability indicators that will be used to evaluate the selected case studies. In this chapter, indicators were identified from a selection of policies guiding integrated human settlement planning and the promotion of sustainable development. The criterion was based on the 5 identified categories as captured in Chapter 5 and in section 6.2.3 between integrated human settlements and sustainable development. The different policies were compared with each other with the aim to indicate if policies correspondent with the 5 categories as illustrated in section 6.2.3.

These identified indicators were then used to evaluate the sustainability of two local case studies, one urban and one rural, refer to section 6.3 and 6.4 of this chapter. The aim was to compare identified sustainability indicators with community needs, as well as to current reality of both urban and rural settlements, in order to identify gaps within integrated human settlements and sustainable development

6.2 Sustainability indicator identification: Policy approach

International and national policies and legislative frameworks contributed to the development of fundamentals of integrated human settlements and sustainable development as mentioned and illustrated in section 2.4.1 and 2.4.2 of this thesis. This section aims to identify core issues that should form part of the integrated housing planning approach, as guided by the relevant policies captured in section 6.2.1 and 6.2.2.

6.2.1 International policies guiding integrated human settlement delivery

As captured in Chapter 2, the two international policies that had the greatest contribution to the development of Integrated Human Settlements were the Un Habitat Agenda and Millennium Development goals. Table 6-1 illustrates the core factors captured in the two international frameworks essential for the planning and development of integrated human settlements.

Table 6-1 International policies and core factors guiding integrated human settlement delivery

Agenda 21(UN, 1992:1)	Un Habitat Agenda
1. Providing adequate shelter for all	1. Creation of equitable human settlements
2. Improving human settlement management	2. Eradication of poverty
3. Promote sustainable land use planning and management	3. Sustainable development

Agenda 21(UN, 1992:1)	Un Habitat Agenda
4. Promote the provision of environmental infrastructure	4. Improvement of quality of life
5. Promoting sustainable energy and transport systems	5. Strengthening of the family as a unit of society
6. Promoting sustainable construction	6. Generation of citizenship
7. Promote human resource development and capacity building	7. Creation of partnerships
	8. Creation of solidarity
	9. Protect in the interest of present and future generations
	10. Promotion of human health and quality

Source: Own Construction based on Un Habitat Agenda and Agenda 21 (UN, 1992:1)

As illustrated by Table 6-1 core issues were addressed by the UN Habitat agenda and the millennium development goals concerning the promotion of sustainability within integrated Human settlements.

6.2.2 National policies guiding integrated human settlement delivery

Human settlement planning policies in South Africa were unsustainable and contributed to uneven, racial and fragmented human settlement delivery incentives (IUDF, 2014:5; Nemawavhanda, 2008:IV). Since the introduction of the Breaking New ground policy, incentives were more focussed on an integrated approach towards human settlement delivery. The BNG, National Development Plan as well as the Integrated Urban and Rural Development frameworks of South Africa created fundamental guidelines with regards to development of successful integrated human settlement delivery nationally. These guidelines were captured in Table 6-2 as the fundamentals of national policies to reveal South Africa's response to a more integrated approach towards human settlement delivery.

Table 6-2 National policies and core factors guiding human settlement delivery in South Africa

Breaking New Ground (SA, 2004:4)	National Development Plan (SA, 2011)	Integrated Urban Development Framework (IUDF, 2014:5-8)	Integrated Rural development framework (IRDF, 2011)
• Accelerating the delivery of housing as a key strategy of poverty alleviation	• Creating jobs and livelihoods	• Integrated transport and mobility	• Corporate governance and service excellence
• Utilising provision of housing as a major job creation strategy	• Expanding Infrastructure	• Integrated sustainable human settlements	• Reformed policy, legislative and institutional environment
• Ensuring property can be accessed by all as an asset for wealth creation and empowerment	• Transforming society and uniting the nation	• Integrated infrastructure planning	• Sustainable spatial equity
• Leveraging growth in the economy	• Transitioning to a low-carbon economy	• Inclusive economic development	• Integrated cooperative governance
• Combating crime, promoting social cohesion and improving quality of life of the poor	• Transforming urban and rural spaces	• Efficient land governance and management	• Sustainable agrarian reform
• Utilizing housing as an instrument for the development of sustainable human settlements, in support of special restructuring	• Improving education and training	• Empower active communities	• Improved access to affordable and diverse food
	• Providing quality of health care	• Effective urban governance	• Improved rural services to support sustainable livelihoods

Breaking New Ground (SA, 2004:4)	National Development Plan (SA, 2011)	Integrated Urban Development Framework (IUDF, 2014:5-8)	Integrated Rural development framework (IRDF, 2011)
	<ul style="list-style-type: none"> • Building a capable state 		<ul style="list-style-type: none"> • Job creation and skills development
	<ul style="list-style-type: none"> • Fighting corruption and enhancing accountability 		

Source: Own Construction based on Breaking New Ground (SA, 2004:4); National Development Plan (SA, 2011:1); Integrated Urban Development Framework (IUDF, 2014:5-8) and IRDF (IRDF, 2011).

Accordingly, Table 6-3 represents a summary of both international and national policy approaches and the contributing factors impacting on the development of integrated human settlement delivery and sustainable development.

Table 6-3 International and national policy approaches and factors impacting on the development of Integrated Human Settlements

Agenda 21 (UNCED, 1992)	Millennium Development Goals (UN Habitat Agenda, 2006:7)	Breaking New Ground (SA, 2004:4)	National Development Plan (SA,2011)	Integrated Urban Development Framework (IUDF, 2014:5-8)	Rural Development Framework (RDF, 2011)
Introduction					
International Policies and frameworks			National policies and frameworks		
As discussed in Chapter 2 Agenda 21 identified seven core issues concerning sustainable integrated human settlements:	As discussed in Chapter 2 The UN Habitat Agenda's identified 10 goals, which were recognised to help achieve this aims.	As discussed in Chapter 4 the BNG committed to meet the following specific objectives:	As discussed in Chapter 4 the NDP identified the following guidelines:	IUDF identified 7 goals to effectively guide human settlement delivery to a more integrated and sustainable approach, they were (IUDF, 2014:5).	The vision of the RDF is to establish vibrant, equitable, sustainable rural communities and food security for all. 7 strategic goals were identified by the RDF (RDF,2011:8).
Goals/Fundamentals					
<ul style="list-style-type: none"> • Providing adequate shelter for al 	<ul style="list-style-type: none"> • Creation of equitable human settlements 	<ul style="list-style-type: none"> • Accelerating the delivery of housing as a key strategy of poverty alleviation 	<ul style="list-style-type: none"> • Creating jobs and livelihoods 	<ul style="list-style-type: none"> • Integrated transport and mobility 	<ul style="list-style-type: none"> • The creation of corporate governance and service excellence
<ul style="list-style-type: none"> • Improving human settlement management 	<ul style="list-style-type: none"> • Eradication of poverty 	<ul style="list-style-type: none"> • Utilising provision of housing as a major job creation strategy 	<ul style="list-style-type: none"> • Expanding Infrastructure 	<ul style="list-style-type: none"> • Integrated sustainable human settlements 	<ul style="list-style-type: none"> • Reformed policy, legislative and institutional environments
<ul style="list-style-type: none"> • Promote sustainable land use planning and management 	<ul style="list-style-type: none"> • Development and improvement of human settlements to be sustainable 	<ul style="list-style-type: none"> • Ensuring property can be accessed by all as an asset for wealth creation and empowerment 	<ul style="list-style-type: none"> • Transforming society and uniting the nation 	<ul style="list-style-type: none"> • Integrated infrastructure planning 	<ul style="list-style-type: none"> • The promotion of effective land planning and spatial equity

Agenda 21 (UNCED, 1992)	Millennium Development Goals (UN Habitat Agenda, 2006:7)	Breaking New Ground (SA, 2004:4)	National Development Plan (SA,2011)	Integrated Urban Development Framework (IUDF, 2014:5-8)	Rural Development Framework (RDF, 2011)
<ul style="list-style-type: none"> Promoting the integrated provision of the environmental infrastructure: water, sanitation, drainage and solid waste management 	<ul style="list-style-type: none"> Improvement of quality of life 	<ul style="list-style-type: none"> Leveraging growth in the economy 	<ul style="list-style-type: none"> Transitioning to a low-carbon economy 	<ul style="list-style-type: none"> Inclusive economic development 	<ul style="list-style-type: none"> The promotion of integrated cooperative governance
<ul style="list-style-type: none"> Promoting sustainable energy and transport systems in human settlements 	<ul style="list-style-type: none"> Strengthening of the family as a unit of society 	<ul style="list-style-type: none"> Combating crime, promoting social cohesion and improving quality of life of the poor 	<ul style="list-style-type: none"> Transforming urban and rural spaces 	<ul style="list-style-type: none"> Efficient land governance and management 	<ul style="list-style-type: none"> The promotion of sustainable agrarian reform
<ul style="list-style-type: none"> Promoting sustainable construction industry activities 	<ul style="list-style-type: none"> Generation of citizenship 	<ul style="list-style-type: none"> Utilizing housing as an instrument for the development of sustainable human settlements, in support of special restructuring. 	<ul style="list-style-type: none"> Improving education and training 	<ul style="list-style-type: none"> Empower active communities 	<ul style="list-style-type: none"> Improved access to affordable and diverse food

Agenda 21 (UNCED, 1992)	Millennium Development Goals (UN Habitat Agenda, 2006:7)	Breaking New Ground (SA, 2004:4)	National Development Plan (SA,2011)	Integrated Urban Development Framework (IUDF, 2014:5-8)	Rural Development Framework (RDF, 2011)
<ul style="list-style-type: none"> Promoting human resources development and capacity-building for human settlement development 	<ul style="list-style-type: none"> Creation of partnerships 		<ul style="list-style-type: none"> Providing quality of health care 	<ul style="list-style-type: none"> Effective urban governance 	<ul style="list-style-type: none"> Improved access to rural services that supports sustainable livelihoods
	<ul style="list-style-type: none"> Creation of solidarity Protection in the interest of present and future generations Promotion of human health and quality 		<ul style="list-style-type: none"> Building a capable state Fighting corruption and enhancing accountability 		<ul style="list-style-type: none"> Job creation and skills development

Source: Own Construction based on Agenda 21 (UNCED, 1992); Millennium Development Goals (UN Habitat Agenda, 2006:7); Breaking New Ground (SA, 2004:4); National Development Plan (SA,2011); Integrated Urban development Framework (IUDF, 2014:5-8) and Rural Development Framework (RDF, 2011).

Based on the international and national frameworks and legislation guiding integrated human settlement planning and sustainable development as captured in Table 6-3, comparisons were made to enable the identification of core issues arising from the majority of policies and legislation, as captured in Table 6-4. The 5 core categories identified in Chapter 5, section 5.4 was used as point of departure to categorize the core issues derived from Table 6-3, namely:

- Housing delivery
- Economic development
- Social development
- Environmental management
- Good governance

Table 6-4 Sustainability indicator identification matrix

Agenda 21	UN Habitat Agenda	Breaking New Ground	The National Development Plan	The Integrated Urban Development Framework	Rural development framework
<i>Goals/Fundamentals</i>					
<ul style="list-style-type: none"> • Providing adequate shelter for all 	<ul style="list-style-type: none"> • Creation of equitable human settlements 	<ul style="list-style-type: none"> • Accelerating the delivery of housing as a key strategy of poverty alleviation 	<ul style="list-style-type: none"> • Creating jobs and livelihoods 	<ul style="list-style-type: none"> • Integrated transport and mobility 	<ul style="list-style-type: none"> • The promotion of sustainable agrarian reform
<ul style="list-style-type: none"> • Improving human settlement management 	<ul style="list-style-type: none"> • Eradication of poverty 	<ul style="list-style-type: none"> • Utilising provision of housing as a major job creation strategy 	<ul style="list-style-type: none"> • Expanding infrastructure 	<ul style="list-style-type: none"> • Integrated sustainable human settlements 	<ul style="list-style-type: none"> • Improved access to affordable and diverse food
<ul style="list-style-type: none"> • Promote sustainable land use planning and management 	<ul style="list-style-type: none"> • Development and improvement of human settlements to be sustainable 	<ul style="list-style-type: none"> • Ensuring property can be accessed by all as an asset for wealth creation and empowerment 	<ul style="list-style-type: none"> • Transforming society and uniting the nation 	<ul style="list-style-type: none"> • Integrated infrastructure planning 	<ul style="list-style-type: none"> • Improved access to rural services that supports sustainable livelihoods
<ul style="list-style-type: none"> • Promoting the integrated provision of the environmental infrastructure: water, sanitation, drainage and solid waste management 	<ul style="list-style-type: none"> • Improvement of quality of life 	<ul style="list-style-type: none"> • Leveraging growth in the economy 	<ul style="list-style-type: none"> • Transitioning to a low-carbon economy 	<ul style="list-style-type: none"> • Inclusive economic development 	<ul style="list-style-type: none"> • Job creation and skills development
<ul style="list-style-type: none"> • Promoting sustainable energy and transport systems in human settlements 	<ul style="list-style-type: none"> • Strengthening of the family as a unit of society 	<ul style="list-style-type: none"> • Combating crime, promoting social cohesion and improving quality of life of the poor 	<ul style="list-style-type: none"> • Transforming urban and rural spaces 	<ul style="list-style-type: none"> • Efficient land governance and management 	<ul style="list-style-type: none"> • The creation of corporate governance and service excellence

Agenda 21	UN Habitat Agenda	Breaking New Ground	The National Development Plan	The Integrated Urban Development Framework	Rural development framework
<ul style="list-style-type: none"> Promoting sustainable construction industry activities 	<ul style="list-style-type: none"> Generation of citizenship 	<ul style="list-style-type: none"> Utilizing housing as an instrument for the development of sustainable human settlements, in support of special restructuring. 	<ul style="list-style-type: none"> Improving education and training 	<ul style="list-style-type: none"> Empower active communities 	<ul style="list-style-type: none"> Reformed policy, legislative and institutional environments
<ul style="list-style-type: none"> Promoting human resources development and capacity-building for human settlement development 	<ul style="list-style-type: none"> Creation of partnerships 		<ul style="list-style-type: none"> Providing quality of health care 	<ul style="list-style-type: none"> Effective urban governance 	<ul style="list-style-type: none"> The promotion of effective land planning and spatial equity
	<ul style="list-style-type: none"> Creation of solidarity 		<ul style="list-style-type: none"> Building a capable state 		<ul style="list-style-type: none"> The promotion of integrated cooperative governance
	<ul style="list-style-type: none"> Protection in the interest of present and future generations 		<ul style="list-style-type: none"> Fighting corruption and enhancing accountability 		
	<ul style="list-style-type: none"> Promotion of human health and quality 				

Source: Own Construction based on Agenda 21,(UNCED, 1992); Millenium Development Goals (UN Habitat Agenda, 2006:7); Breaking New Ground (SA, 2004:4); National Development Plan (SA,2011); Integrated Urban development Framework (IUDF, 2014:5-8) and Rural Development Framework (RDF, 2011).

Within the 5 categories the following core issues were identified, as a refinement of the policy objectives captured in Table 6-2. These 18 core issues were accordingly utilised as sustainability indicators within the case studies, and included:

1. The development of adequate affordable housing for all income
2. Job creation
3. Accelerating housing as a key strategy of poverty alleviation
4. Leveraging growth in the economy
5. Promotion of active communities and skills development
6. Promotion of health care
7. Promotion of social cohesion
8. Eradication of poverty
9. Strengthening the family as a unit of society
10. Generation of citizenship
11. Protect interest of present and future generations
12. Integrated environmental infrastructure/basic service delivery
13. Promoting sustainable land use planning
14. Promote sustainable energy
15. Transition to a low carbon economy
16. Integrated transport and mobility
17. Effective land governance and management
18. Cooperative integrated governance between national, provincial and local governments

Accordingly, these indicators were used to evaluate the approaches of integrated human settlement delivery and sustainable housing development as implemented in both the urban and rural case study as captured in section 6.3 (the second pillar of the empirical investigation, the case studies).

6.3 Urban case study: Fleurhof

This is the starting point of the second section of this empirical investigation. The sustainability indicators identified in the first section was compared to both case studies and with current realities with the aim to identify gaps within current integrated human settlement deliveries.

6.3.1 Introduction to the urban case study

On the 20th of September 2012 the Minister of Housing launched the first development phase of the Fleurhof Integrated Human Settlement development in Soweto. It was estimated that this development was one of the biggest of its kind in South Africa. Fleurhof was characterised by its efforts to bridge the gap between rich and poor in South Africa (The Citizen, 2012). Tokyo Sexwale stated the importance of such an development with the launch of this development stating that “ The creation of sustainable human settlements and the de-racialization of this country has always been the priority of democratic government, even the first Minister of Housing Joe Slovo spoke about Integrated Human Settlements” (The Citizen, 2012:). The Fleurhof integrated human settlement served as a link to formerly segregated areas of Soweto, Florida and Roodepoort, which unlocked economic opportunities and created direct access to the areas. Fleurhof also consisted of various types of housing opportunities. These housing options includes fully subsidised housing (RDP, BNG housing), social housing for rental purposes (subsidised rental units), as well as affordable housing (Bonded units) (EMPEA, 2012).

The project started in 2009 and it was planned to grow to more than eight thousand (8000) low and middle income housing options, eight (8) crèches (nursery schools), five (5) schools, numerous community gardens and play areas, fourteen (14) business centres and four (4) industrial sites (EMPEA, 2012). Emphasis was put on the fact, as mentioned in Chapter 3 that “Integrated Human Settlements is a paradigm shift in housing delivery from an unbalanced approach to well managed qualitative approach”. Integrated human settlements are about quality not quantity (SA, 2004:1). What was significant about this project was that of the joint venture between global private equity funder International Housing Solutions (IHS) and Calgro M3 as well as the collaboration between the developer partners and the Department of Human Settlements along with the City of Johannesburg (EMPEA, 2012). This joint venture states what was mentioned in Chapter 5, that integrated human settlement planning and development cannot function optimally in isolation.

6.3.2 Macro Location

As illustrated in Figure 6.2, Fleurhof is situated in South Africa the in province of Gauteng, within Johannesburg. Fleurhof is located near the historically and politically significant Soweto township.

Beginning as a shanty town in the 1930's to house labourers from the areas mines. Fleurhof are also surrounded by important primary business nodes and is situated approximately ten (10) kilometres from the CBD (Central Business District) of Johannesburg and two secondary business nodes of Roodepoort and Florida.

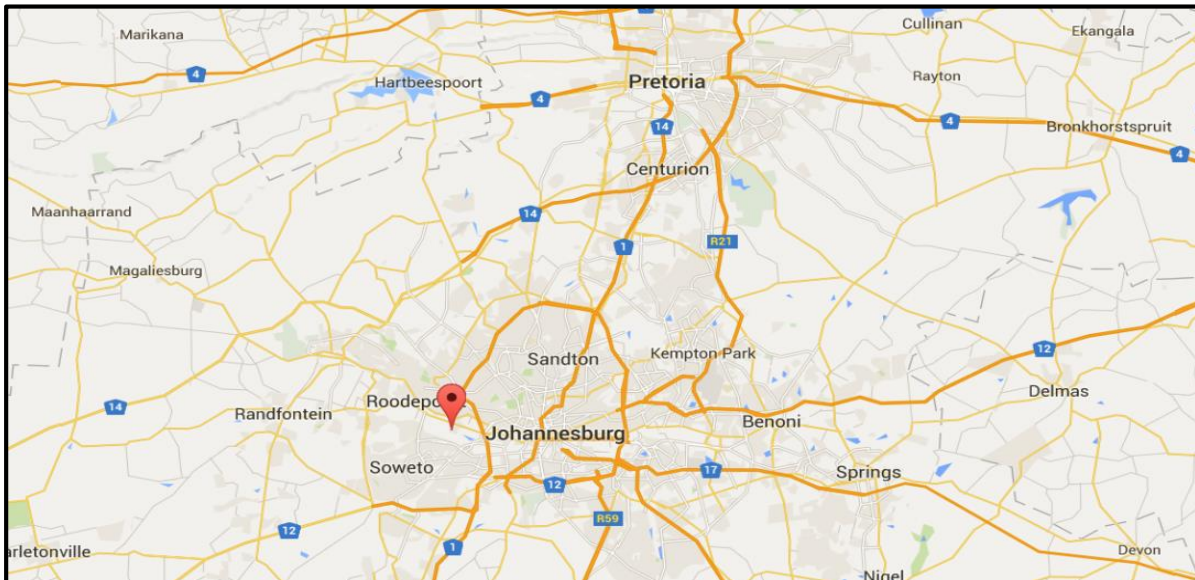


Figure 6.2 **Location of Fleurhof within Gauteng**

Source: **Google Maps (2014a)**

For most of the 20th century, planning theories embraced the notion that human activities should be classified by type (i.e., residential, commercial, industrial), designated as compatible uses and kept apart through strict zoning (Grant, 2002). In the last few decades, however, powerful arguments stated that land use segregation harms urban vitality and contributes to sprawl has brought about a gradual but dramatic shift in planning (Ellin, 1998, Grant, 2002). Today however, more and more planning theorist agrees on the functional, environmental and social benefits of sustainable land use planning approaches, as in the case of Fleurhof where the essence of the development lies in its sustainable land use planning approach, with a more compacted integrated development concept being followed. The sustainable land use approach comprises of providing social, economic and housing development opportunities. Illustrated in Figure 6.3 is an example of the sustainable land use approach, which was implemented by the developers Calgro M3.



Figure 6.3 Land use approach

Source: Calgro M3 (2014a)

6.3.3 Community approach (Urban)

As discussed throughout this research, community attitudes and needs were important issues to consider within the development of integrated human settlements. The identification of needs reflects that in order for an urban integrated human settlement to be sustainable community views and feedbacks are important to adhere to. Community needs within Fleurhof integrated human settlement were identified, based on the data gathered from the Fleurhof housing survey (Urban studies, 2014:1). The data were gathered from a housing survey undertaken by Urban studies in August 2014 (Urban studies, 2014). Fleurhof's housing survey comprised of 1 392 household interviews during July and August 2014.

- Community needs identification approach

The following figures, tables (6.4, 6.5, 6.6 and 6.7) and graph 5.1 from Fleurhofs housing survey were evaluated to identify community needs within Fleurhof. These tables and graph mainly represented community satisfaction, dislikes, as well as aspects that had to be improved within Fleurhof integrated human settlement.

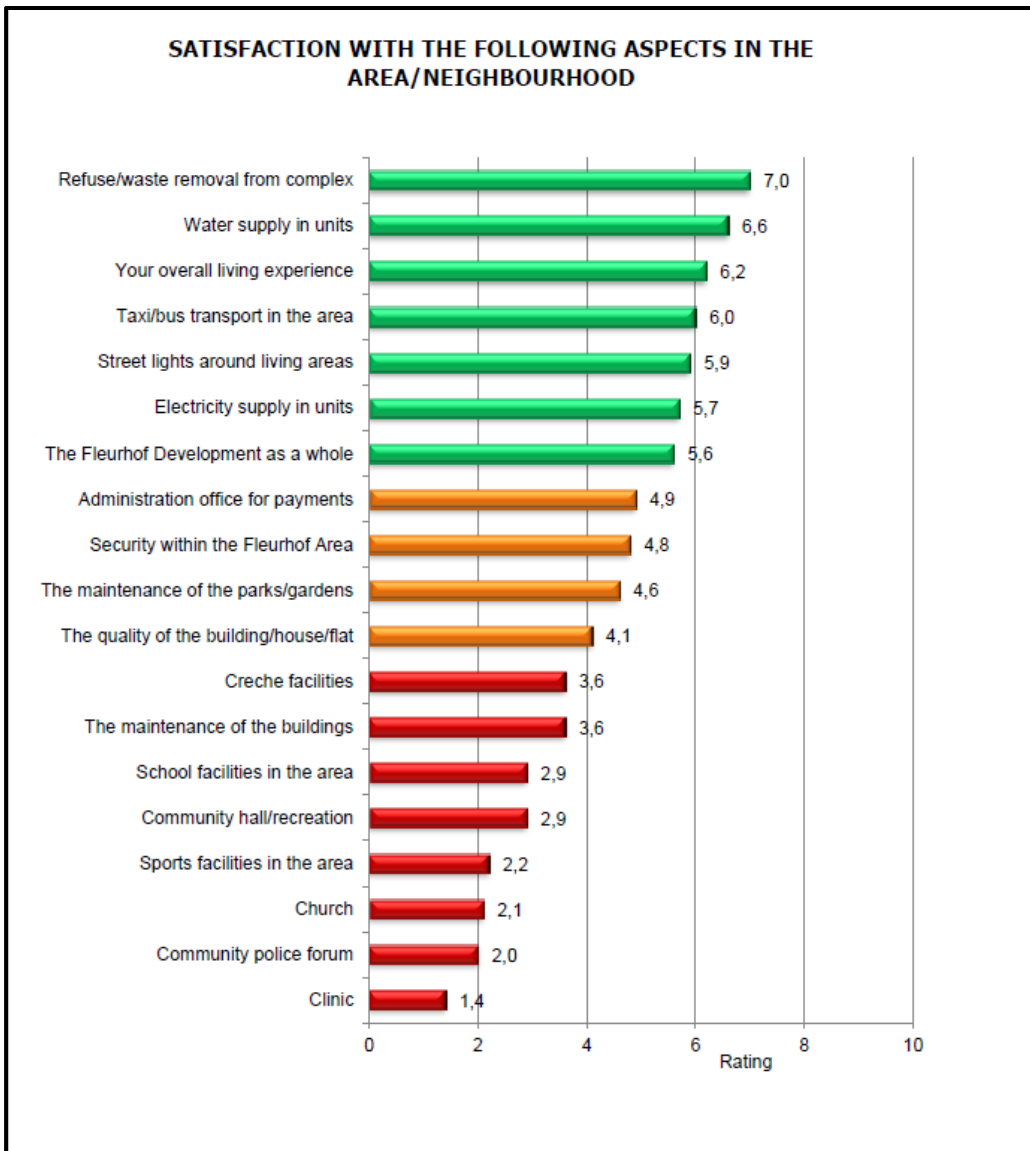


Figure 6.4 Satisfactory within Fleurhof Integrated Human Settlement
Source: Urban Studies (2014a)

Table 6-5 Aspects most disliked about Fleurhof

Dislike most about Fleurhof	Total	Dislike most about Fleurhof	Total
Total Responses	1203		
Buildings/Maintenance		Houses/yards too small	
Buildings poorly built/cracks/leaks	18	Yards are small	4
Maintenance problems/don't fix	8	Houses are too small	4
Inside flat corridors/no lights working	1	Subtotal	8
Subtotal	27	Dust and Drainage	
Shops/Shopping Centre		Dusty in the dry season	4
Shops not enough/no shopping centre	17	Poor drainage system/experience flooding	1
Subtotal	17	Subtotal	5
Security		Paying for parking/hot water	
Area not safe/at night/thefts	11	Billing for hot water in flats	2
Taxis won't drop off inside/problem at night	5	Paying for the parking	1
Subtotal	16	Subtotal	3
Schools/Play grounds		Unemployment	
No high school	5	Jobs not available/high unemployment	3
Play grounds not enough/close by	4	Subtotal	3
School location next to dam is not safe	2	Speed humps/Street lights	
Subtotal	11	Street lights not working/streets dark	1
Flats/RDP Houses		No speed humps/people drive too fast	1
Too many flats in the development/too many people	5	Subtotal	2
Dislike RDP houses in the complex/lowers value of area	3		
Subtotal	8		
Base: 86%			

Source: Urban studies (2014b)

Table 6-6 Aspects disliked in Fleurhof per extension

Dislike Most	Total	Extension 2	Extension 3	Extension 4	Extension 5	Extension 6
Total Responses	1203	565	389	82	26	141
Buildings poorly built/cracks/leaks	18	6	15	66	27	47
Shops not enough/no shopping centre	17	22	19	0	0	3
Area not safe/at night/thefts	11	11	12	0	4	18
Maintenance problems/don't fix	8	9	8	2	8	3
Too many flats in the development/too many people	5	6	6	0	0	1
Taxis won't drop off inside/problem at night	5	3	2	14	23	8
No high school	5	7	3	0	0	3
Play grounds not enough/close by	4	3	10	0	0	0
Dusty in the dry season	4	3	7	0	0	3
Yards are small	4	5	2	0	0	6
Houses are too small	4	4	5	0	0	4
Dislike RDP houses in the complex/lowers value of area	3	5	3	0	0	2
Jobs not available/high unemployment	3	2	0	18	38	0
School location next to dam is not safe	2	4	1	0	0	0
Billing for hot water in flats	2	3	2	0	0	0
Street lights not working/streets dark	1	2	1	0	0	1
Poor drainage system/experience flooding	1	2	1	0	0	1
No speed humps/people drive too fast	1	2	1	0	0	0
Paying for the parking	1	1	1	0	0	0
Inside flat corridors/no lights working	1	0	1	0	0	0

Source: Urban Studies (2014c)

Table 6-7 Aspects to be improved within Fleurhof

Aspects that must be improved	Total
Total Responses	1380
Community facilities	
Clinics	18
Schools needed	9
Parks/play area	6
Sports facilities needed	5
Recreation centre needed closer	4
Church needed	2
Crèche in a better location	1
Subtotal	45
Maintenance/Improvements	
Repair cracks/leaks in houses, buildings	12
Open more gates/entrances	4
Lake to be developed	3
Sidewalks pave	1
Street lights need more/fix/maintain	1
Pave inside the yards	1
Houses/more RDP houses needed	0
Boom gates going into area	0
Storm water drainage to be improved	0
Subtotal	22
Security/Traffic	
Security improve	9
Police Station inside area	8
Speed humps	2
Traffic policing needed inside area	0
Subtotal	19
Shops/Services	
Shopping centre	8
Service/petrol station	1
Subtotal	9
Job Creation	
Jobs create more/teach people to create jobs	5
Subtotal	5
Base: 99%	
0 = <0.5	

Source: Urban Studies (2014d)

Tables 6-5, 6-6 and 6-7 were evaluated as part of a need-analysis within the community of Fleurhof. Table 6-5 captures identified needs, categorized in terms of the 5 categories identified for integrated human settlements and sustainable development (refer to section 5.4)

Table 6-7 Community needs identification according to five identified classifications

Community needs (Fleurhof) Sustainability guidelines to identify needs				
Housing delivery	Economic Development	Social development	Environmental management	Good Governance
Provision of affordable housing	Job creation	Basic service delivery	Maintenance of parks and gardens	Provision and support of good governance incentives
	Shopping centre, services and petrol station	Security improvements area not safe at night	Provision of accessible green open spaces such as sporting facilities, playgrounds and parks	
	Reduce unemployment	Crèche facilities	Better maintenance of buildings	
	Teach people to create jobs	School facilities no high school,		
		Community hall/recreation		
		Churches needed		
		Clinic health facilities		
		Promotion of public participation		
		More entrances needed		
		Recreation centre needed closer		

Source: Own Construction (2014)

6.3.4 Evaluation between linkages, needs and sustainability indicators: Urban case study

Accordingly, the sustainability indicators that were identified was compared with the community needs as well as to the current reality within the urban integrated human settlement. The aim was to identify gaps within the approach towards integrated human settlement planning and delivery, as applicable to this urban case study. Comparisons were based on the five categories of sustainable development and integrated human settlement delivery as seen in section 6.2, 6.3 and section 6.4.

Table 6-8 Sustainability approach as relevant to the Fleurhof (urban) case

Urban case study vs Sustainability indicators			
Sustainability indicators identified from international policies and legislation	Community needs identified	Current realities within Fleurhof Integrated Human settlements	Gaps identified within Fleurhof
Housing delivery			
1) Adequate affordable housing for all income	<ul style="list-style-type: none"> Provision of affordable housing Provision of basic service delivery 	Three types of housing, which includes: <ul style="list-style-type: none"> Social housing Fully subsidised Affordable housing 	
3) Accelerating housing as a key strategy of poverty alleviation			
✓	✓	✓	✓
Economic Development			
2) Job creation	<ul style="list-style-type: none"> Job creation initiatives Shopping centres and petrol stations Provisions of workshops to teach people to create jobs 	<ul style="list-style-type: none"> Plan to develop 14 business centres within Fleurhof Developed In close relation to economic hubs such as Johannesburg CBD, Roodepoort and Florida 	* Provision of workshops to teach people to create jobs
4) Leveraging growth in the economy			
8) Eradication of poverty			
✓	*	✓	*
Social Development			
5) Promotion of active communities and skills development	<ul style="list-style-type: none"> Safe and secure neighbourhoods Schools, crèches, community halls and churches 	Plan to develop and implement: <ul style="list-style-type: none"> 7 crèches 5 religious sites 1 Community centre 3 schools Sport fields 	
6) Promotion of health care			
7) Promotion of social cohesion			
9) Strengthening the family as a unit of society	<ul style="list-style-type: none"> Hospitals and clinics Healthy living environment 		
10) Generation of citizenship			
11) Protect interest of present and future generations			
✓	✓	✓	✓
Environmental Management			
12) Integrated environmental infrastructure/ basic service delivery	<ul style="list-style-type: none"> Accessible green open spaces, such as sporting facilities, playgrounds and parks 	<ul style="list-style-type: none"> Fleurhof development follows an sustainable mixed land use approach, which includes economic, environmental and social land usages Plans to develop 20-30 parks within the integrated human settlement 	*
13) Promoting sustainable land use planning			
14) Promote sustainable energy and transport			

15) Transition to a low carbon economy			Promoting sustainable energy
x	✓	✓	x
Good Governance			
17) Effective land governance and management	<ul style="list-style-type: none"> Support from government incentives 	2) Efficient land use and spatial management between different spheres of government	
18) Cooperative integrated governance between, national provincial and local governments			
✓	✓	✓	✓

Source: Own Construction (2014)

A. Housing delivery the following conclusion were made:

- As illustrated in Table 6-9 community needs were captured with regards to housing delivery within Fleurhof and it was identified that these needs were addressed within in the overall planning of Fleurhof, taking into consideration that 3 types of housing option were developed making it more affordable for all income levels including the medium income sector, also known as the GAP sector.
- No Gap identified in terms of housing delivery

B. In terms of economic development:

- As illustrated in Table 6-9 capturing the community needs the economic development issues were addressed by the particular urban case study, which planned to develop more than 14 economic centres within Fleurhof integrated human settlement. Fleurhof was also developed within close proximity to primary and secondary economic nodes such as Johannesburg CBD, Roodepoort and Florida, making it accessible and cost effective for inhabitants in terms of travelling distances and transportation costs.
- Gap identified: Provision of workshops to teach people to create jobs

C. In terms of social development:

- As illustrated in Table 6-9 the planning and development of 7 crèches, community halls, sport fields, schools and religious sites are proof of the urgency under provincial, local policies and private equities to promote and enhance social development within Fleurhof.
- An effective and balanced social development approach were followed by Fleurhof

D. In terms of environmental management

1. Fleurhof integrated settlement planned to develop between 20 and 30 parks or green open spaces within the settlement to accompany and address the demands set by community.
2. Gap identified: Promotion and provision of sustainable energy

E. In terms of good governance:

- The promotion of good governance incentives was a need identified from the community need identification approach, what is significant though, was the joint venture between different stakeholders, national, provincial and local government incentives. This clearly reflected the efficient integrated government approach being followed and promoted throughout the planning and development of Fleurhof integrated human settlement.
- No gap identified in terms of provision of good governance

Fleurhof integrated human settlement was concluded to be successful in terms of sustainable development objectives, not only concerned with the planning and development of housing delivery, but also to the provision and promotion of social, economic and environmental support structures. It complied with most of the core issues (sustainability indicators) identified from guiding policies and legislations guiding sustainable and integrated development approaches.

6.4 Rural case study: Ganspan

6.4.1 Introduction of the rural case study and project

Ganspan was identified as the rural case study for the evaluation of sustainability within a rural integrated human settlement delivery. Ganspan is a community which is mainly sustained economically by agriculture, retail, informal retail and private households. Ganspan is a low income human settlement, which is characterised by poverty, unemployment and unsustainability (Coetzee *et al.*, 2011:1). *Volkswelwyn* a social welfare organization looked after the people from Ganspan for many years (Vaalharts report, 2011:20). This social welfare organization also cultivated Ganspan lands which lead to unhealthy dependence from inhabitants (Vaalharts report, 2011:20) As the years progressed *volkswelwyn* retreated from Ganspan, which left people with fields but with no guidance and tools to maintain agriculture. Ganspan has one primary school in the community and a high school just outside Jan Kempdorp (International policies and core factors guiding integrated human settlement delivery (Vaalharts report, 2011:20).

6.4.2 Macro Location

Ganspan is a rural settlement situated on the border of Northern Cape and North West provinces of South Africa. As illustrated in Figure 6.6, Ganspan is situated approximately 8.6 kilometres from the economic node of the area, which is Jan Kempdorp, a town mainly supported by

agricultural activities. Ganspan falls under the jurisdiction of the Phokwane Local Municipality and the Frances Baard district municipality (Figure 6.7).



Figure 6.5 Location of Ganspan in South Africa

Source: Google Maps (2015)



Figure 6.7 Phokwane Local Municipality

Source: Google Maps (2015)

6.4.3 Community approach (Rural)

The local community approach was based on a needs assessment, conducted in the Vaalharts region in February 2011 (Coetzee & kie, 2011:1). The aim of the needs assessment was to conduct research that could be used to inform and direct future community interventions in the Vaalharts region in the North West and Northern Cape Provinces of South Africa (Coetzee & kie,

2011:1). The needs analysis therefore, had as its objectives to determine the actual needs of five preselected areas, which Ganspan formed part of. Furthermore, the project set out to achieve these objectives by 1) compiling a basic need inventory, 2) verifying/quantifying each need (or needs related theme) and 3) identifying community strengths/assets and resources. From this criterion a satisfaction percentage were given to each need identified. These percentages were used to classify(also seen with urban case study) the needs in the following three sections; 1) good to relative satisfaction with aspects, 2) aspects to be improved in Ganspan as well as aspects most disliked within Ganspan from inhabitant point of view.

1) Good to relative satisfaction with aspects:

- Water provision in settlement (27%)
- Waste management facilities in settlement (22%)
- Entrepreneurship opportunities within Ganspan (30 %)
- Provision and support of recreational facilities (38%)

2) Aspects disliked within Ganspan

- Mentoring and agricultural support (40%)
- Job opportunities within Ganspan (40%)
- Provision of shelter for homeless (40%)
- Provision of an old age home (48%)
- Maintenance of irrigation system (48%)
- Emergency service provision (48%)
- Skills training (50%)
- Provision of accessible tertiary education and bursaries (50%)

3) Aspects that must be improved within Ganspan

- Provision of housing to all (92%)
- Provision of playgrounds (88%)
- Provision of accessible school provision from pre-primary to tertiary education (80%)
- Provision of accessible and affordable electricity (75%)
- The need for medical provision (75%)
- Agricultural support (60%)
- Provision of health facilities (60%)
- Provision of religious facilities (60%)
- Provision of accessible shops (60%)

- Provision of accessible transport (60%)

Based on these ratings thirty one purposely selected participants from different professionals identified 10 different needs or need related themes during the duration of the project (Coetzee & Kie, 2011:15).

The needs identified by the selected participants were:

1. Access to basic government services
2. Basic municipal services
3. Education or training- related services
4. Employment
5. Agriculture
6. Infrastructure/additional facilities
7. Health care
8. Safety and security provision
9. Emergency services
10. Awareness campaigns

The identified needs were categorized in terms of the 5 categories identified for integrated human settlements and sustainable development (refer to section 5.4), as captured in Table 6-10.

Table 6-9: Sustainability guidelines for identifying needs

Community needs (Ganspan) Sustainability guidelines to identify needs				
Housing delivery	Economic Development	Social development	Environmental management	Good Governance
Provision of affordable housing	Job creation/Employment	Education or training related services	Provision and agricultural support	Access to basic government incentives
Basic service delivery		Provision of health care facilities		
		Safety and security provision		
		The provision of effective and reliable emergency services		
		Awareness campaigns		

Source: Own Construction (2015)

As illustrated rural needs reflects according to the 5 categories between integrated human settlements and the promotion of sustainable development. As illustrated with the urban needs as well it is evident to see that social development accumulates more needs than the other 4 categories combined. Table 6.10 reflects the importance of community views and feedbacks within the development of sustainable integrated human settlements. The rankings of the researcher's indicators reflected the community's responses with regards to the rural area under study. The rankings of the indicators will be further utilized in section 6.6 of this chapter.

6.4.4 Evaluation between linkages, needs and sustainability indicators: Rural case study

Accordingly, the sustainability indicators that were identified was compared with the community needs as well as to the current reality within the rural integrated human settlement. The aim was to identify gaps within the approach towards integrated human settlement planning and delivery, as applicable to this rural case study. Comparisons were based on the five categories of sustainable development and integrated human settlement delivery as seen in section 6.2, 6.3 and section 6.4.

Table 6-10 Rural policy approach

Rural Policy vs International Policies (indicators)		Ganspan	
Sustainability indicators identified from International and national policies and legislations	Community needs identified	Current realities within Ganspan	Identified gaps
Housing provision			
1) Adequate affordable housing for all income 3) Accelerating housing as a key strategy of poverty alleviation	<ul style="list-style-type: none"> Provision off affordable housing Basic service delivery 	Three types of housing which includes: <ul style="list-style-type: none"> Social housing Fully subsidised housing and Housing with 1 ha of fertilize land 	Gap Provision of affordable housing for all income
x	✓	✓	x
Economic Development			
2) Job creation 4) Leveraging growth in the economy 8) Eradication of poverty	<ul style="list-style-type: none"> Job creation and employment 	The fertile land which was allocated to the people of Ganspan plays the biggest role in the economic development of Ganspan	Gaps identified <ul style="list-style-type: none"> Leveraging growth in the economy Eradication of poverty
x	✓	✓	x
Social Development			
5) Promotion of active communities and skills development		<ul style="list-style-type: none"> 1 Primary school 1 High school 	

6) Promotion of health care	<ul style="list-style-type: none"> • Education and training related services • Provision of health care facilities • Safety and security provision • The provision of effective and reliable emergency services • Promotion of awareness campaigns 	<ul style="list-style-type: none"> • Sport field 	<p>Gaps identified</p> <ul style="list-style-type: none"> • Promotion of active community and skills development • Provision of effective and reliable emergency services • Promotion of awareness campaigns
7) Promotion of social cohesion			
9) Strengthening the family as a unit of society			
10) Generation of citizenship			
11) Protect interest of present and future generations			
x	x	x	x
Environmental Management			
12) Integrated environmental infrastructure/basic service delivery	<ul style="list-style-type: none"> • Provision and agricultural support 	<p>Every house has approximately 1 ha of fertile land which was allocated to the people of Ganspan, with the aim to promote agricultural development and job creation</p>	<p>Gaps identified</p> <ul style="list-style-type: none"> • Provision of integrated environmental infrastructure • Promoting sustainable land use planning • Promote sustainable energy
13) Promoting sustainable land use planning			
14) Promote sustainable energy and transport			
15) Transition to a low carbon economy			
x	x	x	x
Good Governance			
17) Effective land governance and management	<ul style="list-style-type: none"> • Access to basic government incentives 	<p>Most of the inhabitants within Ganspan have access to electricity, water and basic waste management incentives</p>	<p>Gaps identified</p> <ul style="list-style-type: none"> • Provision of cooperative integrated governance between different spheres of government
18) Cooperative integrated governance between, national provincial and local governments			
x	x	x	x

Source: Own construction (2015)

A. In terms of housing delivery:

- The creation of affordable housing and infrastructure was a need identified from community responses. As illustrated in Table 6-11, the communities responses with regards to the development of affordable housing within Ganspan, scored below average ratings which indicate that housing is not affordable for all income inhabitants within Ganspan. The need therefore was not fully addressed.
- Gaps identified in terms of housing delivery included the provision of affordable housing for all income inhabitants

B. In terms of economic development:

1. Unemployment, as well as the lack of knowledge and unavailability to information could be responsible for the high levels of poverty and unemployment.
2. Gaps identified in terms of economic development included the leveraging growth in the economy as well as the eradication of poverty

C. In terms of social development:

1. The provision of social development in rural settlements are usually very basic and with Ganspan there were no exceptions.
2. Gaps identified in terms of social development included the promotion of active community and skills development, provision of effective and reliable emergency services as well as the provision of awareness campaigns

D. In terms of environmental management:

1. The promotion and provision of agricultural incentives was also one of the needs identified by the community and no data could be gathered in terms of agricultural support by local governments.
2. Gaps identified in terms of environmental management included the provision of integrated environmental infrastructure, promotion of sustainable land use planning as well as the provision of sustainable energy

E. In terms of the provision of good governance:

1. As with most cases of rural human settlement deliveries government support was not visible within Ganspan
2. Gap identified in terms of provision of good governance included the provision of cooperative integrated governance between different spheres of government

Ganspan integrated human settlement was concluded to be successful in some objectives related to sustainable development, but major gaps were identified in the current approach to planning and providing integrated human settlements within this rural setting. The rural development and growth strategies indicated that housing delivery, promotion of economic developments, social development and environmental management were addressed in local and provincial policies, but based on community feedbacks, these development and growth strategies were not implemented effectively within Ganspan. The results indicated a lack of good governance support within Ganspan.

6.5 Conclusion

The use of sustainability indicators enabled an evaluation of the two case studies include in this research, based on their approach to sustainable development and integrated human settlement planning and delivery. A comparison with the community needs and the current reality (facilities and structures currently provided within the case studies) formed part of the gap-analysis to illustrate weaknesses of the current approach, and opportunities for future intervention to guide these human settlements to be more sustainable. The following chapter will accordingly elaborate on findings drawn from these evaluations and the linkages with the theoretical investigation.

CHAPTER 7

CONCLUSION

7.1 Introduction

Throughout this research emphasis has been put on the role that sustainable development plays in the planning and development of successful integrated human settlements. The “sustainability indicator identification” approach was used in an attempt to evaluate the sustainability of two case studies and identified gaps within the current planning approaches of such. This chapter poses to give conclusions with regards to the linkages between the theoretical and empirical investigations as captured in this research, linked to the research questions and aims stated in Chapter 1.

7.2 Conclusions to research questions

This section aims to answer the research questions as captured in Chapter 1.


7.2.1 How can integrated human settlements be defined within the local South African planning context?

In terms of the local planning context in South Africa, Integrated Human Settlements can be defined as the planning and development of human settlements in terms of economic, social and environmental objectives, based on a holistic sustainable integrated approach (as illustrated in in Figure 2.4, section 2.3). Integrated human settlement delivery, in this sense, includes 5 categories (as seen in section 5.5, Chapter 5), namely; housing delivery, economic development, social development, environmental management and provision of good governance which contributes to the promotion of sustainable development within integrated human settlement delivery in South Africa.

7.2.2 Did human settlement delivery in South Africa undergo a paradigm shift?

This research presented a comparison of human settlement delivery based on the RDP model and more recent models of human settlement delivery including the BNG, NDP and the Integrated Urban Development Framework (referred to section 4.2). Table 7.1 captures the core findings of this comparison in an attempt to answer the research question.

Table 7-1 Paradigm shift in human settlement delivery in South Africa.

Human Settlement Delivery in South Africa		
Paradigm Shift	Then  (Reconstruction and Development Plan)	Now (Sustainable integrated human settlements)
In the case of: Human Settlement Delivery	Due to apartheid and the great housing backlog human settlement delivery was based on a quantitative, homogenic and unsustainable approach. As mentioned in Chapter 3 the RDP model focussed on structural and political reform rather than human settlement delivery. Furthermore, the RDP model was renowned for its high level of fraud and injustice (SA, 1994:1)	National policies such as the BNG, NDP and IUDF contributed to the modern trend in human settlement delivery which was committed to create sustainable human settlements, were every inhabitant has the right to own a house, have access to health care facilities, jobs, social gatherings and an attractive environments. Furthermore, the modern trend of human settlement delivery strived to produce housing which could be afforded by all income levels and was focussed on the strengthening of the cohesion between private and public incentives to develop integrated human settlements.
Conclusion	RDP = Quantitative and unsustainable approach	IHS = Qualitative and sustainable approach

Source: Own Construction (2014)

Table 7.1 captures the paradigm shift in human settlement delivery in South Africa in a simplistic manner. Based on the research it can be stated that current human settlement planning approaches is now more focussed on the delivery of qualitative, integrated and sustainable human settlements. By means of this matrix it can be concluded that human settlement delivery in South Africa had underwent a paradigm shift from an unbalanced, and unsustainable approach to a more qualitative sustainable approach where human settlement delivery is not only focussed on housing delivery but also on the integration of economic, social and environmental functions the human settlement delivery approach.

7.2.3 Is there a cross-cutting theme and core issues evident within current guiding policies and legislations that could be interpreted as sustainability indicators for human settlement planning?

As concluded in Chapter 5 the five core concept or cross-cutting themes in terms of integrated human settlement delivery and sustainable development were identified, namely; housing delivery, economic development, social development, environmental management and provision of good governance. These cross-cutting themes served as a framework which guided research of integrated human settlement delivery as an instrument to provide housing delivery, to promote economic development, to promote social development, engaged environmental management as well as to provide effective governance. Using the five categories as framework, fundamentals of local and international policies concerned with integrated human settlement and sustainable development approaches could be compared. This comparison led to the identification of 18 sustainability indicators which could guide and facilitate sustainable development within integrated human settlement delivery in South Africa. The 18 sustainability indicators identified through this research included: 1) The development of adequate affordable housing for all income , 2) ; Job creation, 3) Accelerating housing as a key strategy of poverty alleviation , 4) Leveraging growth in the economy, 5) Promotion of active communities and skills development , 6) Promotion of health care , 7) Promotion of social cohesion , 8) Eradication of poverty , 9) Strengthening the family as a unit of society , 10) Generation of citizenship , 11) Protect interest of present and future generations , 12) Provision of integrated environmental infrastructure and basic service delivery , 13) Promote sustainable land use planning , 14) Promote sustainable energy , 15) Transition to a low carbon economy , 16) Provision of integrated transport and mobility , 17) Effective land governance and management and 18) Provision of cooperative governance between national, provincial and local governments.

7.2.4 Can the use of sustainability indicators promote sustainable development in South African integrated human settlement planning and delivery?

Based on the findings of this research it can be concluded that sustainability indicators can promote sustainable development within Integrated Human Settlement planning and delivery in South Africa, as the indicators are used to evaluate the case studies and relevant community needs, and accordingly identify the crucial gaps within the current planning approaches.

This was evident in the two case studies captured in this research where gaps of planning approaches were identified in terms of the urban approach and rural approach. Table 7.2 captures the summary and core findings of the relevant urban and rural case studies included in this research. The table illustrates the strengths (green) and weaknesses (red) of both case studies.

Table 7.2 Urban and rural Integrated Human Settlements provision approaches conclusions

Sustainability Linkages	Gaps identified within particular case studies	
	Urban	Rural
Housing delivery	✓	<ul style="list-style-type: none"> × Provision of housing for all income inhabitants
Economic development	<ul style="list-style-type: none"> × Provision of workshops to teach people to create jobs 	<ul style="list-style-type: none"> × Leveraging growth in the economy × Eradication of poverty
Social development	✓	<ul style="list-style-type: none"> × Promotion of active community skills and development × Provision of effective and reliable energy services × Provision of awareness campaigns
Environmental management	<ul style="list-style-type: none"> × Promotion and provision of sustainable energy 	<ul style="list-style-type: none"> × Provision of integrated environmental infrastructure × Promotion of sustainable land use planning × Promotion and provision of sustainable energy
Good governance	✓	<ul style="list-style-type: none"> × Provision of cooperative integrated governance between different spheres of government

Source: Own Construction (2014)

The use of sustainability indicators can thus promote sustainable development within Integrated Human Settlements as it identifies the crucial issues to address and opportunities in terms of future intervention.

The comparison of the two case studies furthermore identified some differences in terms of the planning approach applicable to urban and rural areas. Based on the sustainability analysis and comparisons of these two case studies, it can be stated that the current approach to planning Integrated Human Settlements in urban areas are more sustainable than those within rural environments. The rural case study identified various opportunities and challenges to address in terms of sustainability and integrated planning approaches. Generalizations cannot be made solely on these two case studies, but it does serve as a point of departure to future research the planning approaches of Integrated Human Settlements within urban and rural areas. As concluded, sustainable indicator identification approaches can guide human settlements to be

planned and developed based on social, economic and environmental objectives, creating an approach towards integrated and balanced human settlement delivery.

CHAPTER 8

RECOMMENDATIONS

8.1 Introduction

In light of the current reality and unsustainability of human settlements within South Africa, this chapter aims to provide recommendations on (section 8.2) how to address current gaps within human settlement planning and delivery approaches, (8.3) how to identify relevant sustainability indicators, and (8.4) how to apply such indicators in order to evaluate Integrated Human Settlements and guide such to be more sustainable.

8.2 Recommendations to address the gaps in the current South African approach to human settlement delivery

The following recommendations were given to address the gaps within human settlement delivery in South Africa:

- In order to provide a sustainable approach it is important to understand the concept of sustainability, along with the different spheres of sustainability (as seen in Figure 5.2) as well as the role of each sphere within the planning and development of sustainable integrated human settlements.
- It is proposed that the 5 categories; housing delivery, economic development, social development, environmental management and provision of good governance (as identified in section 5.5) be used as point of departure when considering a link between sustainable development and integrated human settlement delivery, as this proves to be effective with regards to the identification of gaps within integrated human settlement delivery (referred to section 6.3 and 6.4).
- Sustainability indicators should future more be identified based on evaluations of core concepts captured in guiding international and local policies. Thereby, sustainability indicators forms part of a broader perspective which could help to reveal the state of local integrated human settlement fundamentals in terms of policies and legislation in comparison with fundamentals of international policies and legislations.
- Furthermore it is advise that an in depth study is conducted between urban and rural approaches in order to refine the process of successful planning and delivery of Integrated Human Settlements in these areas.

8.3 Recommendations to successfully identify sustainability indicators

The identification of sustainability indicators can be a complex process and needs to be scientifically grounded. Figure 8.1 captures a sustainability indicator identification model that can be used, comprising of a system, an indicator collection approach, a successful indicator interpretation phase and the utilisation of these indicators in promoting sustainable development.

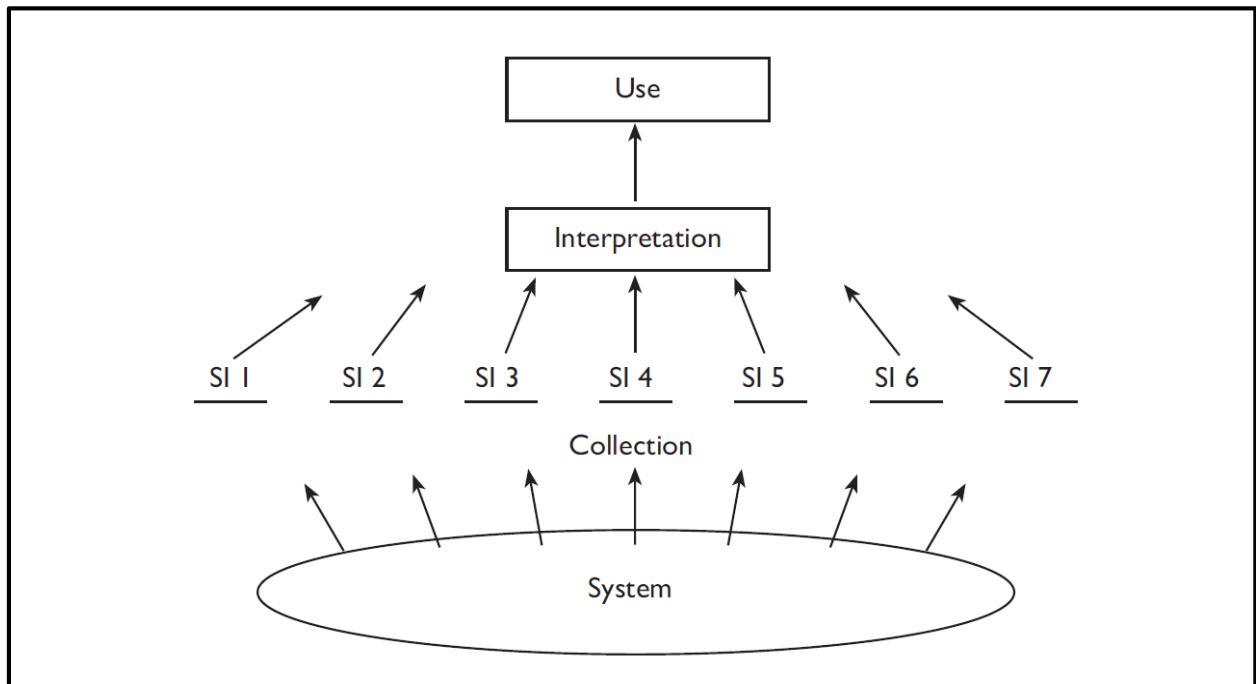


Figure 8.1 Sustainability indicator identification model

Source: Own Construction (2014)

It is also recommended that this model be developed based on the following guidelines (as seen in Figure 8.2):

- **System - Based on a systematic approach:** This research identified 5 categories of integrated human settlements and sustainability indicators that served as the basis of the model for the identification of sustainability indicators. These categories served as a guideline which led to the identification of close relating indicators and not randomly priced indicators with no relation to sustainability or the promotion of integrated human settlement delivery.
- **Collection - Based on PAR (Participation Action Research):** Community involvement is crucial in the development and identification of sustainability indicators. It is recommended that the PAR (Participation Action Research) method be used to identify

community needs and compare such to the identified sustainability indicators in an attempt to refine and validate indicators.

- **Interpretation:** The sustainability indicator identification approach could be used to evaluate case studies and facilitate a gaps-analysis. These gaps should be interpreted in terms of the local context, as this research illustrated the great differences in terms of urban and rural planning approaches.
- **Use - Utilizing sustainability indicators:** Identified sustainability indicators can be used to guide sustainable development within integrated human settlements: Such an example was provided in this research where sustainability indicators were compared to community needs and the current reality (facilities and structures provided) in order to identify gaps and opportunities for future intervention to enhance sustainable development within the case studies.

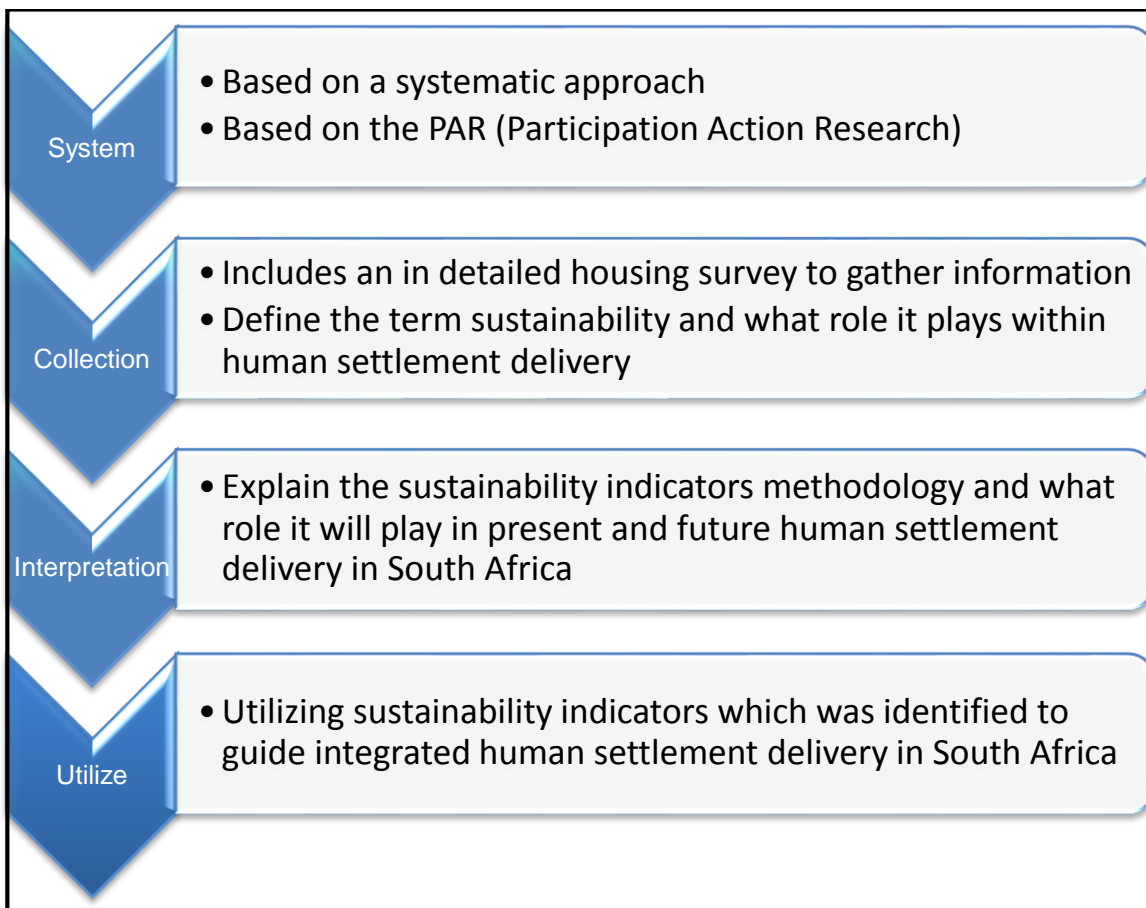


Figure 8.2 The recommended indicator identification approach

Source: Own Construction (2014)

8.4 Recommendations how to apply indicators in order to evaluate Integrated Human Settlements and guide such to be more sustainable.

Table 8.1 captures the recommended approach to evaluate Integrated Human Settlements based on sustainability indicators. The steps of such an approach include the following:

1. Identification of guiding local and international policies and legislations concerned with integrated human settlement delivery and the promotion of sustainable development. Policies and legislations like for example Un Habitat Agenda, Agenda 21, Breaking New Ground and Integrated Development Framework were identified (as seen in section 6.1 and 6.12)
2. Identify sustainability indicators from international and national policies and legislations (as seen in section 6.2)
3. List identified indicators within 5 core categories identified (as seen in section 5.4)
4. Identify case studies concerned with integrated human settlement delivery and the promotion of sustainable development (as seen in section 6.1 and 6.2)
5. Identify community needs based on the PAR (Participation Action Research) and housing surveys (see section 6.2.5 and 6.3.3).
6. List community needs according to identified categories like for example (A): Housing delivery and community need, affordable housing. (see section 6.2.6 and 6.3.4)
7. Capture the current realities within integrated human settlements like for example (available services, infrastructure and basic service delivery) as seen in section 6.2.6 and 6.3.4.
8. Identify gaps and opportunities for future interventions (as seen in 6.2.2 and 6.3.4)

Table 8-1 Sustainability indicator identification process to evaluate Integrated Human Settlements

(1) Identify guiding policies and legislation		(5) Identify a case study	
(2) Identify sustainability indicators from International and national policies and legislations	(4) Identify community needs based on PAR and housing surveys	(7) Capture the current realities (available services, infrastructure and facilities)	(8) Identified gaps and opportunities for future intervention
Housing provision			
(3) List indicators within each of the 5 categories	<ul style="list-style-type: none"> (6) List community needs according to categories 		
Economic development			
-			
Social development			
Environmental management			
Good governance			

Source: Own Construction (2016)

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