
The role of professionals in partnership-based urban upgrading interventions

By

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In addition to being a researcher and writing this dissertation in partial fulfilment of this degree, I am also a professional architect. Given my training and education as an architect, I have experience in and knowledge of the processes associated with the traditional role of a professional in delivering technical services. I have, however, through the process of this research been exposed to various aspects of community building, advocacy efforts, and raising awareness on issues regarding inequality in our cities.

Due to my experience in both technical and non-technical fields, I have chosen to conduct research that investigates the possible linkages between these two fields. This research would not have been possible without the inputs from all of the following people:

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Abstract

In South Africa, current urban planning models and traditional state-led urban interventions seem to have noticeably failed to sustainably address the integrated problems evident in informal settlements throughout the country. In the case of many current urban interventions, professionals give technocratic solutions to problems in informal communities with little to no consultation or engagement with the affected community. The result is often that a community's needs are not sufficiently met and the community is not capacitated to take full ownership of the solution. More often than not the intervention (technocratic solution) becomes mismanaged, underutilised and inevitably the solution is proven to be unsustainable. This phenomenon has highlighted the need for a new approach to addressing the needs of informal settlement dwellers.

In recognition of the need for a new approach, this case study of a partnership-based urban upgrading intervention is conducted in order to make realistic recommendations regarding the value of professionals in partnership-based urban upgrading interventions as opposed to top-down interventions. The primary research question of this case study is thus: what lessons can be learnt about the role of the professional in partnership-based urban upgrading interventions by gaining insight on a successful partnership-based intervention? The Genius of SPACE (GOS) partnership, based in the informal settlement of Langrug in the Stellenbosch Municipality is used as the topic of the case study to answer the research question. The GOS partnership was initially formed to address greywater management and stormwater drainage challenges in the settlement.

A capability analysis approach is utilised as a theoretical tool to investigate all of the different assets which might be available to the professional to contribute to addressing the social as well as the technical challenges that the GOS partnership aims to address. This tool ultimately contributes to the development of clear guiding principles for technical professionals working in urban upgrading partnerships.

Some key guidelines for technical professionals in partnerships emerge from the case study and clearly show that a developmentally aligned partnership should ultimately be able to utilise not only technical abilities and skills but also social expertise to facilitate community mobilisation strategies that allow for highly responsive upgrading processes to ensure long-lasting structural as well as social change.

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List of acronyms

BNG	Breaking New Ground
CBO	Community Based Organisation
CORC	Community Organisation Resource Centre
DAG	Development Action Group
DEADP	Department of Environmental Affairs and Development Planning
DEDAT	Department of Economic Development and Tourism
DoIS	Department of Informal Settlements
DPU	Development Planning Unit
EBE	Engineering and Built Environment department
FEDUP	Federation of the Urban Poor
GOS	Genius of SPACE
GOP	Genius of PLACE
ILO	International Labour Organisation
JTED	John Todd Ecological Design
MoU	Memorandum of Understanding
MoC	Memorandum of Co-operation
NGO	Non-governmental organisation
NUSP	National Upgrading Support Plan
NHC	National Housing Code
OSS	Obras Sociales Salesianas
RDP	Reconstruction and Development Programme
SDI	Slum Dwellers International
SPACE	System for People's Access to a Clean Environment
UCL	University College London
UCT	University of Cape Town
UISP	Upgrading Informal Settlements Support Programme
UN-Habitat	United Nations Human Settlements Programme
UNDP	United Nations Development Programme
UNRISD	United Nations Research Institute for Social Development
WCDoHS	Western Cape Department of Human Settlements
WPI	Worcester Polytechnic Institute

CHAPTER ONE: INTRODUCTION AND BACKGROUND

1.0 Background to the study

There is no question that the growth of the urban population in the Southern Hemisphere is taking place at an unprecedented rate. This phenomenon where developing countries are becoming increasingly urban is directly related to the increasing number of the urban poor (Mehta, 1999). Thus, informal settlements are a reality. This researcher views an informal settlement as the result of rapid urbanisation: informal settlements are established by the urban poor, usually on the periphery of the formal city (SDI South African Alliance, 2012). The African continent has experienced some of world's the highest urban growth during the last two decades, at 3.5% per year; and this rate of growth is expected to continue until 2050 (African Development Bank Group, 2012). The UN-Habitat State of African Cities report of 2014, also states that more than a quarter of the 100 fastest growing cities in the world are in Africa (UN-Habitat: 2014b, 15). South Africa is no stranger to this pattern of urbanisation. As a result of the urban planning (or lack thereof) of the pre-1994 regime, South African cities are characterised by urban sprawl, low density neighbourhoods, segregation between classes and separation between living and working environments (Department of Cooperative Governance and Government Affairs: 2014, 10).

Since 1994, the South African national government and its local municipalities have focused on addressing issues of poverty and inequality, which are the results of the policies dictating urban planning in the years before 1994 (Bond and Tait: 1997, 20). These issues still persist even though the government has spent a large amount of resources to develop housing schemes, policies, systems and several urban upgrading developments in the last twenty six years.

Despite the attention given to improving lives, a large number of South Africans still live in inadequate living conditions in informal settlements. These settlements lack suitable infrastructure and have little to no security of tenure (Del Mistro and Hensher. 2009, 338-339). South Africa as a developing country is increasingly becoming urbanised. As a result many people migrating to the cities end up in these informal settlements on the periphery of the city, with limited access to the formal city.

The continuous growth, both in numbers and in size, of these settlements makes it exceptionally challenging for governmental institutions to reach their goals of fully addressing poverty and inequality (South African National Department of Environmental Affairs. 2010, 7). Furthermore it is evident that even though policies and systems are put in place to address these challenges, they are not always implemented correctly, and the 'business-as-usual' approach persists. The business-as-usual approach of the 'government as provider' where professionals are contracted to complete technical interventions that are isolated from the greater context, proves to not only be insufficient, but also unsustainable. This phenomenon takes place in

informal as well as formal settings, but for the sake of this study the focus will be on interventions in informal settlements.

With this situation as background, several attempts have been made in recent years to take initiative to address socio-economic issues as part of addressing infrastructure issues in an innovative way by promoting the development of partnerships. These partnerships are usually formed between local governments, private sector professionals, intermediary organisations and communities. The goal is to bridge the gap between communities and government, and to ensure effective policy implementation so that real participatory planning can take place to enable marginalised groups to become empowered through gaining access to decision-making processes (Piper: 2011, 33).

In South Africa, and specifically in the Western Cape, there are a variety of partnerships that employ partnership-based planning programmes to address issues of poverty and inequality in informal settlements. In the case of the informal settlement of Langrug, the partnership consists of several organisations ranging from non-governmental organisations (NGO's) such as Community Organisation Resource Centre (CORC), international organisations such as Worcester Polytechnic Institute (WPI) private sector organisations such as 'In/formal South' (more recently known as Actuality), the community leaders as well as elected representatives and technical professionals such as Maluti GMS consulting engineers, Biomimicry SA and John Todd Ecological Design (JTED).

The organisations in this partnership all have different responsibilities to ultimately address the core challenges of informal settlement communities. The roles and responsibilities of each of these types of organisations in the specific partnership in Langrug will be discussed in the following chapters, with a specific focus on the role of the professionals supplying technical solutions.

1.1 Overview

Chapter one serves as the overall introduction to this research project. It provides a basis for the whole dissertation and is divided into seven different parts. Part one provides the background of this study in the South African context. The second part introduces the research problem and explains the problem by summarising it in a few short statements. Part three discusses the theoretical base used to address the research problem that was highlighted in part two. Part four first gives a brief description of the history and the context of the case of Langrug, an informal settlement in Franschhoek, which forms part of the Municipality of Stellenbosch. Secondly, part four applies the research design to this case in order to answer the research question. Part five explains the validity of the research and the potential uses thereof. In this part the objectives and the expected outcomes of the research are listed. Lastly, part six concludes with the layout of the whole dissertation and briefly explains the content of each chapter.

1.2 Research problem

In South Africa, the current delivery of technical services in informal settlements has proven to be inadequate as it is insufficient in addressing the core challenges of informal settlement communities. The technical solutions that professionals offer through the top-down, business-as-usual approaches of isolated government contracts are failing to sufficiently address the challenges of communities living in informal settlements. These approaches do not actively focus on understanding and addressing the often complex social challenges that these communities face. A focus on the social challenges are however very important to ensure the sustainability and validity of any technical interventions. It is clear that a new approach to provide technical support is needed to fully address the challenges of informal settlement communities in a holistic and sustainable manner, which can contribute to the empowerment of the community. This type of approach requires that professionals such as; architects, engineers, planners, contractors, ecologists, and scientists – who supply technical support – play an integral role in these interventions to empower communities. In order to achieve this, the development of partnerships between different stakeholders is very important. This has been widely recognised by policy, but is lacking in implementation.

This researcher conducted a case study of the ‘Genius of SPACE’ (GOS) partnership working in the informal settlement of Langrug as a precedent of a well-functioning partnership-based intervention. The case study is used to determine the role that the professional should play – within the partnership – to ensure that the technical interventions contribute to the empowerment of informal settlement communities in a holistic manner that contributes to sustainable outcomes. The research problem can thus be summarised in the following statements:

1. The top-down (business-as-usual) technical solutions where professionals are contracted by government to provide a service, are failing to address the core challenges of communities and often these technical interventions become unsustainable and irrelevant.
2. Due to this failure a different approach to providing technical support is needed that addresses the challenges of informal settlement communities in a holistic way, which enables the sustainability of interventions through the empowerment of community members.
3. Professionals providing technical support need to play an integral role in the new approach to sustainable informal settlement interventions.
4. However, technical solutions cannot be provided in isolation. Thus, the development of partnerships is very important in ensuring that the proposed holistic intervention outcomes and community empowerment are achieved.
5. The role of the professional within partnerships of such a nature is, however, not yet clearly defined. This creates confusion between the roles of partners, and more often than not technical solutions are not supplied through true partnerships.

The research question is thus: what is the exact role of the professional within a partnership? The research argues that the success of technical interventions should be measured in terms of its holistic sustainability through its contribution to community empowerment. By conducting this case study, the researcher aims to determine what the exact role of the professional should be in a partnership to empower communities in a sustainable way. As a sub-theme this research aims to highlight the value of providing technical support through partnerships as opposed to top-down technocratic solutions. Therefore sub-questions to this research problem are:

1. Who are the stakeholders?
2. What are their roles?
3. What role does the professional play within the partnership in providing technical solutions?

1.3 Research design

The aim of the research is to identify the stakeholders engaged in the participatory-based upgrading intervention. Also, to zoom in on the role the professional plays in making recommendations and ensuring that the technical intervention can be sustained by communities who have been empowered through partnership development. The findings of the case study will be used to make recommendations regarding the role of professionals in successful partnerships with communities in informal settlements.

The research questions will be addressed through the utilisation of the 'capability analysis'. This theoretical approach will be used as a tool to determine the roles and responsibilities of the professional in relation to the roles and responsibilities of the other partners, as well as to unpack all the different material and relational assets that are available to the professional to fulfil his/her role. The capability analysis will be used as a theoretical tool to investigate all the different assets which might be available to the professional in the GOS partnership in Langrug to answer the research questions within the context of this specific case study.

1.4 Description of the case

According to a 2012 report by the SDI South African Alliance, there is a housing backlog of approximately 19,700 households in Stellenbosch, and more than 20,000 families are still living in informal settlements. The Stellenbosch municipality receives only 300 annual housing subsidies, therefore some of these families can theoretically wait up to 130 years for a subsidised house. The municipality accordingly created a new management structure and developed the Department of Informal Settlements (DoIS). The main task of this department is to facilitate the upgrading of informal settlements and service delivery initiatives (SDI South African Alliance, 2012). The informal settlement of Langrug forms part of the Municipality of Stellenbosch. It is situated about three kilometres north-west of the centre of Franschhoek in the Stellenbosch winelands in the Western Cape. Langrug is

comprised of about 2,120 shacks which houses over 4,700 individuals. One of the biggest challenges in the settlement is the management of stormwater runoff as well as greywater coming from the homes.

The settlement is situated on the side of a steep hill and therefore it is imperative to solve the issues of stormwater and greywater, not only for this community but also for the surrounding communities and farm areas. In 2011, a partnership was established between the SDI South African Alliance, the Municipality of Stellenbosch and the leaders of the Langrug community to address issues of water management and urban upgrading. Other role-players that formed part of the partnerships included: Informal Settlement Network (ISN), Community Organisation Resource Centre (CORC), the Faculty of Engineering and the Built Environment (EBE) of the University of Cape Town (UCT) and the Worcester Polytechnic Institute (WPI). The objectives of this partnership-based intervention included the re-blocking of clusters of shacks, the design and construction of a road hierarchy, the planning and implementation of sanitary facilities (wash facilities, ablution blocks and taps) as well as subdivision of plots, and securing of tenure for residents. The expectations of this intervention were to upgrade the physical infrastructure, but also to create a platform for the community members to take part in capacity building activities (SDI South African Alliance, 2012).

This partnership has achieved a successful level of collaboration and succeeded in establishing community leadership as well as community savings structures. Sadly, even though there were several successes as a result of this partnership, the technical challenge of greywater and stormwater drainage was still not resolved. In 2013, the 'Genius of SPACE' (GOS) partnership was formed (contracted by the Western Cape Provincial Government) to innovatively target the persistent issues regarding greywater management and stormwater drainage in Langrug. This partnership also forms part of the 'Western Cape 110% Green' platform (Department of Economic Development and Tourism, 2014). The Western Cape government appointed this partnership to develop solutions for the pollution of the Berg River. A combination of greywater and solid waste enters the stormwater drains and eventually the Berg River which causes serious environmental and health issues.

The initiative involves a participatory planning and implementation phase as well as the development of prototypes for separating stormwater and greywater. The partnership identified the concept of biomimicry as the most viable method of intervention. This process, when implemented and maintained correctly, can have a positive impact on not only the settlement of Langrug, but on the greater environment (In/formal South, 2014). The GOS partnership also collaborates with intermediary organisations such as Habitat for Humanity South Africa, the South African Slum Dwellers International (SASDI) affiliates, namely Community Organisation Resource Centre (CORC), Informal Settlements Network (ISN) and Federation of the Urban and Rural Poor (FEDUP) that had been active in the area before the formal establishment of the partnership (Biomimicry SA, 2015a). It was identified that in order for an intervention based on the concept of biomimicry to be successful, an intensive interdisciplinary approach was necessary. Thus, the partnership includes various stakeholders from

different disciplines. This partnership and its identified intervention serves as a suitable case study for investigating the role of professional technical support in participatory-based upgrading interventions.

1.5 The potential uses of the research outcomes: research rationale

The projected outcomes of this research are as follows:

- To understand the material and relational assets available to the professional in partnership-based upgrading interventions.
- To develop an understanding of the scope of capabilities that each of the stakeholders involved in the partnership have in relation to the profession.
- To develop an understanding of the role of the professional within the partnership.
- To make realistic recommendations regarding the value of professionals contributing to the sustainability of interventions by providing technical support through partnership-based interventions instead of top-down, isolated interventions.

This research is used to test these ideas and the research outcomes contribute to the understanding of how professionals can play a role in partnership-based interventions. These outcomes are also intricately linked, and contribute to making informed recommendations on the role of the professional in partnership-based upgrading interventions.

It is important to note that even though the partnership in this case study targets issues of greywater and stormwater management in the settlement, this study does not quantitatively measure the actual contaminants coming from the Langrug settlement, as a measure of the success. 'Success' in this case study is rather measured by the sustainability of the intervention and the overall contribution of the intervention to the holistic development of the community. Within the scope of this research project it is also important to note that the focus of this research is not on finding solutions to reduce the contaminant load from the settlement to the nearby Berg River, or on the specific techniques that the partnership might employ to innovatively construct sanitation, stormwater drainage or greywater treatment systems.

It is extremely difficult to prevent the discharge of diffuse source water pollution from a largely unserved informal settlement such as Langrug. Although intercepting contaminants from entering stormwater run-offs and implementing innovative water management systems is one of the main objectives of the partnership, the ability to achieve this objective will not be measured by this research project. The aim of the case study is rather to investigate the partnership-based intervention that mobilises changes in community behaviour, together with limited community-built infrastructural interventions. Therefore failure to reduce or remove contaminants loads in stormwater run-offs will not be considered to be a 'failure' of the partnership.

1.6 Dissertation layout

This mini-dissertation is structured into seven interlinking chapters. Chapter one introduces the study and the research topic. This chapter also gives insight into the background of the case and gives context. Chapter one furthermore addresses the research problem and design as well as the significance of the research outcomes and the dissertation layout. The second chapter reviews the existing literature on the specific role of the professional in partnerships and investigates the capability analysis theory, literature on partnerships and participation, community empowerment and interdisciplinary knowledge production to provide a theoretical underpinning for the investigation.

The third chapter gives a brief review of the policy environment with a focus on selected relevant government policies and pieces of legislation regarding the upgrading of informal settlements in South Africa. In chapter four the methodological approach and the limitations thereof as well as the remedies are discussed. This chapter also discusses the supplementary research questions and explains the process of primary and secondary data collection. Any ethical concerns that might arise during the process of the investigation are also discussed. Chapter five showcases the research findings, based on the fieldwork and site observations. The sixth chapter further interrogates the research findings in terms of the primary and secondary research questions. Finally, chapter seven provides conclusions and recommendations. This chapter also reflects on the whole of the research document and makes suggestions based on the research findings of the study that might serve as a precedent for similar cases.

CHAPTER TWO: LITERATURE REVIEW

2.0 Overview

This chapter is used to build the theoretical framework to ground the research to follow. The literature review is three-fold: firstly, the elements of a successful partnership is unpacked in detail. This is achieved by interrogating some of the existing literature regarding the definitions of participation with regards to forming partnerships. Secondly, some existing literature on the specific role of professionals in partnership-based interventions is scrutinised. Thereafter an overview of the capability analysis approach (originally developed by Amartya Sen in 1999) will be done and the research of the Development Planning Unit (DPU) on the application of the capability analysis approach to urban development and infrastructure planning will be discussed. The base research of the DPU, as adapted from the original writings on the capability analysis theory by Amartya Sen (1999), is used to understand the value of the role of professionals in partnerships. With regards to this dissertation, the capability analysis approach is utilised as a theoretical tool which can be used to unpack the different assets available to a professional within a partnership, and to determine what kind of particular assets a professional needs in order to be a successful role-player in a partnership-based urban upgrading intervention.

This chapter is divided into seven parts. Part one briefly reviews the role of technical professionals in partnerships as set out in existing literature and best-practice methodologies. The second part discusses the development of partnerships as an alternative to traditional top-down service provision, and concludes with a brief discussion of the advantages and disadvantages of partnerships. Part three is used to develop an informed and well-rounded definition of participation by learning from existing theories and literature. Part four explains the importance of interdisciplinary role-divisions in partnerships. Part five looks more closely at the different disciplines in a partnership to determine what the role of each of the disciplines is, and what the benefits are. Recognising that participation in a successful partnership-based urban upgrading intervention often requires more than purely technical expertise, the sixth part uses the capability analysis approach and investigates literature on the value of using a capability analysis to investigate all of the different assets available to a professional to successfully and effectively play a role in a partnership. Lastly, the seventh part concludes the literature review by summarising the chapter.

2.1 A participatory narrative

The general narrative of global urban upgrading literature emphasises the importance of partnership-based planning and settlement upgrading. In South Africa, numerous national policies and legislative documents also support this notion. In the 2014(b) publication UN-Habitat states that upgrading must

be driven by communities and not controlled by government. Accordingly, government should be a partner to the solution, but should not lead the intervention.

UN-Habitat continues by stating that professionals offering technical services are also important to the process, but need to play a supporting role to communities rather than trying to impose their professional opinions. This approach to upgrading interventions allows for a demand-driven solution rather than a business-as-usual, supply-driven solution. In a demand-driven scenario, communities can assist in planning the intervention, contribute financially or otherwise to the implementation process, and they have a larger stake in the project and thus has a vested interest in its success. On the contrary, a supply-driven approach dictates that government or professionals implement pre-planned projects to selected beneficiaries, the government controls all the financing and the professionals develop solutions in isolation of the real community need (UN-habitat, 2014a: 27).

The latter approach has proven to be problematic as it does not include the voice of the community. It is clear that real progress requires continuous dialogue between government, technical professionals and communities. A supply-driven approach often causes these dialogues to be dysfunctional or even non-existent as engagements are characterised by distrust and ineffective communication. A partnership-based intervention involving all these role-players can, however, overcome these challenges. When interventions are demand-driven rather than supply-driven, the real needs of communities are addressed and members are motivated as well as capacitated to participate in planning, implementation and the maintenance of interventions (UN-habitat, 2014a: 27).

2.2 Partnerships: a new perspective on service delivery

This part of chapter two investigates the makings of a partnership as a vessel for overcoming challenges and addressing the needs of communities through demand-driven urban upgrading interventions. According to the Merriam Webster Online Dictionary (2017) a 'partnership' is defined as "a relationship that resembles a legal partnership between parties". It further states that "such a relationship usually involves a close cooperation between parties having specified and joint rights and responsibilities". Partnerships in urban upgrading interventions that are considered successful are ones where the community members are not merely recipients of, and subjects of the power that is exercised over them either by the government or the professionals (Zunino, 2006). A successful partnership requires a level of transparency and trust throughout the whole process. All of the stakeholders should take care to establish a level of legitimacy with their partners to acquire the necessary support for the intervention. This is done through sufficient communication and ensuring that the motives of all the partners are out in the open (Moynihan, 2012: 27). Within an urban upgrading intervention there is usually a variety of stakeholders including: Government (usually municipal government), community members, intermediary organisations, professionals and private or foreign investors (Bolnick & Patel, 1994: 24).

The principles of partnerships are well known in the South African context of urban upgrading, and it has been recognised on many occasions that the complex challenges South Africans face can only be addressed through the involvement of multiple and diverse role-players to develop sustainable, inclusive solutions. Partnerships allow for a combination of approaches aimed at meeting an agreed upon goal, and it ensures a higher level of democratic decision-making (Fieuw, 2015).

No single sector will be able to address challenges of inequality and poverty effectively, but the combined efforts of the government, professionals, the community, and intermediary organisations can contribute to overcoming these obstacles of spatial and social injustice (Fieuw, 2015). A partnership comprised of all of these stakeholders is able to utilise not only technical abilities and skills, but also social expertise to facilitate community mobilisation and conflict mediation strategies that allows for highly responsive upgrading processes that aim to facilitate long-lasting structural as well as social change. Partnerships increase synergy between role-players and high levels of synergy in turn allows for all role-players to function optimally and to compensate for one another's shortcomings (Bryson & Quick, 2012: 31). As such, partnership-based urban upgrading interventions are aimed at producing integrated and inclusive living environments that enable access to basic services and housing as well other social opportunities. The approach recognises the importance of the empowerment of communities (Fieuw, 2015). The conclusion that can be drawn is thus, when community members are able to participate (through proper partnerships) in making decisions regarding their own futures, service delivery becomes more sustainable. There are however several advantages and disadvantages of working in partnerships that need to be equally investigated and understood before entering into a partnership agreement. These will be discussed in the following section.

2.2.1 The advantages and disadvantages of partnerships

Firstly, some advantages of partnerships. One of the advantages of partnerships is that the project can save costs throughout the process. This can be mainly attributed to the involvement of the private sector (professionals) in the partnership. The private sector incentivises improved performance in order to maximise financial gain, and thereby cuts on overall project costs. Another advantage is that these kinds of partnerships are typically operated by an output-focused contract, which means that payments are linked to performance. Due to this arrangement, emphasis is put on the quality of the delivered results rather than how the service is provided (Claridge, 2013: 47). This emphasis encourages innovative planning and implementation and encourages project partners to develop new approaches to delivering the project and meet requirements at lower costs. Lastly, the partnership agreement also dictates that because partners are equal, project risks are shared between all stakeholders and the high levels of transparency and communication that is stipulated by such an agreement ensures a higher level of accountability and performance monitoring for each stakeholder. Effective partnerships also bring together the strengths of each of the stakeholders, and allow for a diverse range of skills, resources, technologies and ideas to be utilised to solve problems (UN-Habitat, 2011a: 12).

On the other hand, there are also a few disadvantages associated with these partnerships. Firstly, there is a reduced control over public assets. Due to the fact that the risks of a project are shared and all the partners have shared interest in the decisions-making; there is often a loss of public control of decisions made regarding public issues such as basic service delivery, housing and labour issues. Secondly, the formation of a partnership can create a loss of accountability. Partnerships are governed by a complex system of agreements and contracts and if these arrangements are not sufficiently managed, with very clearly defined roles and responsibilities, the lines of accountability can become blurred and the project will suffer. Thirdly, with certain partnerships and especially within large and complex partnerships, the mitigation of unexpected and unforeseen risks can become difficult and costly. Lastly, partnerships that are long-term and rigid limit its stakeholders' ability to make changes to the agreement over time or when unexpected economic or other challenges arise (Faber, 2015: 29). Partnerships can often be too inflexible, mainly to mitigate risks. Therefore, great care should be taken to establish each partnership in a way that responds efficiently to its context and the needs of all the stakeholders as far as possible (UN-Habitat. 2011b, 18).

Partnerships are however only efficient and sustainable when different role-players are able to fully participate. Therefore, in the following part of this chapter the concept of 'participation' will be unpacked in further detail by discussing some existing literature on the topic.

2.3 Theorising the concept of participation

Participation as a concept is multi-faceted and many researchers have used very different terms and definitions of the concept to investigate certain areas thereof. This part of the literature review will investigate the definitions of participation from a variety of authors including: Moser (1989), Paul (1987), Abbott (1993) and Arnstein (1969) in order to determine the definition and need for participation in the context of urban upgrading interventions.

2.3.1 Moser and empowerment

Firstly, Caroline Moser (1989) explains in her book *Community Participation in Urban Projects in the Third World* that the context of participation is the development project/intervention that is being implemented. This is important as the context determines the participants.

Moser continues to explain that the aim of participation is to focus on the participation of the beneficiaries (community members), and not too much on the other role players such as local government. The beneficiaries, as the users/recipients of the intervention, and their involvement in the execution thereof, is of concern in these contexts. Thus, the joint and collaborative involvement of the beneficiaries (the community of Langrug in terms of this case study) is a true indicator of a participatory process (Moser, 1989: 14).

In addition to the aim of participation, Moser shows that the objective of a participatory process in the broadest sense is viewed as a tool for the empowerment of the community (beneficiaries). According to this, development through participatory processes should lead to equitable power distribution between communities and other stakeholders. Any intervention of such a nature can then be seen as a means of empowering people to take actions which will influence the outcome of decisions that concern them. This process of empowerment can also contribute to building the capacity of communities and the enhanced capacity could also contribute to the sustainability of an intervention long after the external role-players have left (Moser, 1989: 15). Moser also writes that in 1976, at the World Employment Conference, the ILO (International Labour Organisation) identified the important role of participation in the implementation of basic human needs. Community participation was identified as playing a very crucial role in the provision of basic services to meet basic human needs, as it increases not only self-resilience, but also efficiency (Moser, 1989: 61).

Moser refers to the work of the UNRISD (United Nations Research Institute for Social Development) who in 1979, identified participation as a method of increasing control over resources in certain social contexts to community members/stakeholders who would have traditionally been excluded from accessing power. Moser continues that this definition highlights that the process of participation inevitably requires the deliberate sharing and the transfer of power to enable communities to take control of their own lives and improve their own conditions (Moser, 1989: 62). In the context of urban upgrading interventions, such as Langrug, the need for participation to be used as a tool to achieve community empowerment is recognised by several stakeholders. It is also necessary to reinforce the importance of the role that community organisations can play in accessing these levels of empowerment.

Community leaderships and organisations can be effective in mobilising the demand for services, provide efficient feedback and lead to a more equitable sharing of benefits. The sustainability of interventions that are implemented in these contexts cannot be achieved without the involvement of the community members and their institutions being strengthened in the process, therefore sustainability as a goal provides a rationale for participatory processes in a variety of situations (Moser, 1989: 56).

2.3.2 Arnstein and the ladder of participation

As explained earlier, participation is a complex concept and can be understood in a myriad of different ways. This can be problematic as different viewpoints of participation hold different definitions. This can create potential confusion and additional frustration. Sherry Arnstein (1969) developed a conceptual framework for participation which explains that there are different levels of participation. This typology also visually illustrates that not all levels of participation are efficient in giving the kind of power Moser writes about to citizens.

The 'Ladder of Citizen Participation' (Arnstein, 1969) typology illustrates eight rungs on a ladder that shows participation ranging from non-participation to tokenism, and finally to citizen power. This typology is crucial in highlighting the difference between business-as-usual rituals of participation and having real power to affect the desired outcomes of citizens. The fundamental point is that participation without redistribution of power is an empty and frustrating process for powerless citizens (Arnstein, 1969: 217).

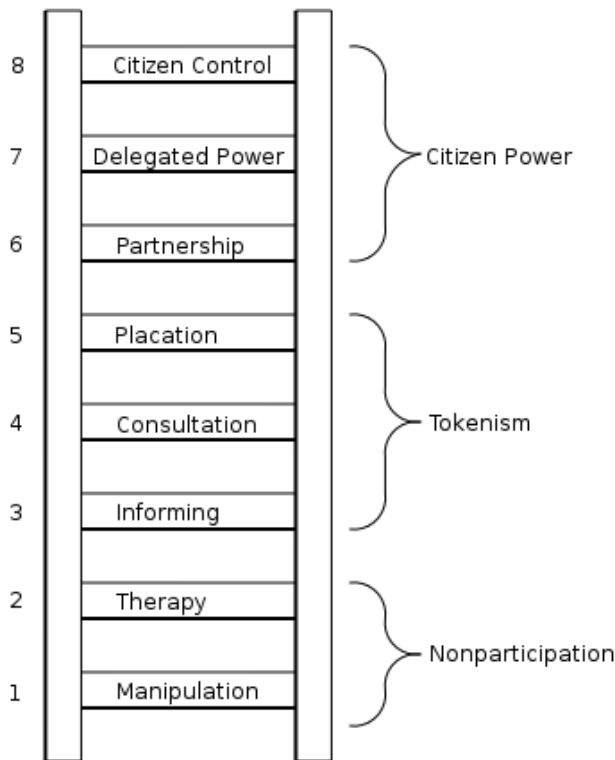


Figure 2.1 The Ladder of Participation (Arnstein, 1969: 220)

From this brief investigation of Arnstein's typology, three key points can be raised. First is the recognition of the importance of power, and citizen power. It is the redistribution of power that enables citizens (in this case the community members of Langrug) who are excluded from accessing socio-economic opportunities (often through physical infrastructure provision) to gain the power to influence and build their own future. Second, it is important to note that this typology shows only eight rungs, but in 'the real world' the progression might consist of up to 50 more subtle rungs. Furthermore, the achievement of 'citizen power' should also not be viewed as power just for the sake of power. The level of citizen power/empowerment should be responsive to meet the needs and aspirations of the citizens (Langrug community members) in question. Lastly, the typology of the ladder itself suggests a continuum of participation that increases in intensity and recognises that citizen control and eventual community empowerment is often a linear process that develops over time (Abbott, 1993: 55).

2.3.3 Paul and participation as a tool

What these definitions of participation and the ladder do not highlight is the roles of some of the other role-players who also form key parts of the partnership with communities. Therefore, in addition to the specific focus on the role of the community members, Samuel Paul (1987) regards participation as a tool of engagement between a *variety* of different stakeholders and focuses more holistically on the different elements that make participation possible. Paul describes participation as a tool of engagement that is appropriate when one or more of the following circumstances are true:

- The objective of the intervention is to empower and build the capacity of the people engaged in the process.
- The design of the specific interventions requires interaction among different stakeholders as a basis for identifying their needs and preferences.
- The implementation of the intervention requires frequent dialogue and negotiation among the different stakeholders (Paul, 1987: 10).

Paul also identified that it would be more difficult to implement participation as a tool for engagement, if one or more of the following circumstances are true:

- The local authorities and other stakeholders do not have a social understanding which is supportive of participatory processes.
- Inadequate access to relevant technologies and material resources inhibits the delivery of project services required to implement the proposed intervention.
- Project authorities (often local governments) are reluctant to build participatory process into project design requirements (Paul, 1987: 10).

2.3.4 The challenges of technical professionals and participation

In addition to the previous point made by Paul, John Mac Kay (2004) states in his thesis on developmental local government, that participation enables a platform for sharing information and setting common goals and that different role-players have different responsibilities within a partnership. In the context of the provision of services by technical professionals in South Africa however, participation – especially of technical professionals – is not very common in the context of urban upgrading interventions. This can partly be ascribed to South Africa's regulatory context and bureaucratic systems regarding infrastructural development, and minimum standards for settlement upgrading interventions. These systems do not necessarily allow for the high levels of collaboration that are required for the achievement of 'citizen power'. Current policies and guiding documents, which are used by most technical professional services, were formulated to provide a guiding vision for South African settlement formation.

Over the last 20 years these documents have become quite out-dated, but many government entities and technical service providers still view these guiding documents as the 'be all and end all' of settlement formation and development. The perceptions of decision-makers often create environments that are restricting to innovation and disabling to partnerships (Hofman Bradlow, 2008).

The out-dated regulations in these policy documents make very little provision for professionals to engage in participatory projects. One example of the implications of these regulations is the roll-out of the Upgrading of Informal Settlements Programme (UISP) in the informal settlement of Sweet Home Farm in Philippi (the UISP is a subsidy instrument contained in the National Housing Code that is specifically designed to cater for the special development requirements of informal settlements). The partnership working on the construction phase of the UISP in Sweet Home Farm encountered several challenges in gaining government approval for a contextually responsive and innovative settlement layout plan, as the plan was restricted by several inappropriate and out-dated conditions. Many of these conditions were not appropriate for an in-situ settlement upgrading initiative. One of the conditions with regards to the application of rezoning indicated that residential-use erven have been zoned as Single Residential Zone 1 (SR1) in accordance with Section 42 of the Land Use Planning Ordinance 15 of 1985. SR1 allows for conventional housing, typically found in low density settings, whereas Single Residential Zoning 2 (SR2) which allows for incremental housing (and incremental densification by means of a second dwelling) would arguably have been a more appropriate choice for an in-situ incremental upgrading setting which the UISP promotes (du Preez, Lewis, & Malan, 2017: 24).

The technical norms and standards in policy documents such as the UISP, are often perceived as too inflexible for upgrading (Development Action Group, 2007), and creates tension between required minimum standards for poor people and seemingly prescribed engineering norms. Even though the guidelines were intended to provide an equitable and healthy outcome, the prescriptive manner in which they are implemented by professionals fails to reach the sensible trade-off between immediate needs and a reasonable standard suited to communities living in informal settlements (Swilling *et al.*, 2013: 2). Consequently, informal settlement community members are excluded from accessing decision-making power, and are left to solve problems by themselves. Professional-led, capital intensive works do not recognise the type of urban development or upgrading in which community development is important (Plummer, 2000). This unfortunate occurrence can be ascribed to the lack of multi-disciplinary partnerships. The business-as-usual approach limits the understanding that professionals have of community-level livelihood strategies and development needs.

In many cases true collaboration is lacking as professionals are not capacitated to participate in a partnership-based process and as a result the voice of the poor is not taken into account (Tshikotshi, 2009) when professionals develop solutions.

When one looks at the 'Ladder of Participation' (see Fig. 2.1) it seems from this illustration that many of the South African approaches to partnerships are stuck on the 'Tokenism' rung where professionals and the government still retain most of the power. Within this approach the role-players recognise the need for participation, but there are still clear limits to the level of participation from community members (Arnstein, 1969: 216).

John Abbott's (1993) thesis entitled 'The theory and practice of community participation in the provision of urban infrastructure' expands on this phenomenon. He explains that the concept of participation has become a major consideration in the provision of services especially to low-income communities. The problem is, however, that it seems that all of the stakeholders involved in these participatory processes do not necessarily share a common vision of the definition of participation.

Technical professionals often see participation as an exercise to mobilise community support for projects, while intermediaries and community members rather view participation as a tool which communities can utilise to take more control of their development process (Abbott, 1993: 16). In the urban upgrading context in South Africa, these conflicting views often contribute to misunderstandings, misalignment of goals and overall unsuccessful and unsustainable interventions. In many cases this is where participation is viewed to be included, but the technical profession is not fully included in the process.

It is clear from the investigation of existing literature that participation is a term that can be used in urban planning contexts to emphasise the importance of involving an entire community as well as other important stakeholders, such as technical professionals, in decision-making processes regarding urban upgrading and development. The aim of a participatory process is thus to give a voice to all of the stakeholders in an attempt to prevent conflict between various stakeholders, and to empower citizens to take more control over their own development and encourage sustainability. Wolfgang Sachs (1993) explains participation as a tool for more effective practices and as a source of investment. This tool should be used to avoid the failures of the past (Sachs, 1993: 119).

2.3.5 Contemporary reflections on participation and empowerment

The Isandla Institute (a research and consultancy agency in support of urban development and transformation) gives a more contemporary and context-specific reflection on the theories of participation and community empowerment. In a 2014 publication, they state that the upgrading of informal settlements is a valuable strategy for addressing inequality and spatial segregation in South Africa. This process of upgrading recognises the functionality and potential within informal settlements and the ability that the households in these settlements have to contribute positively to their livelihoods. Upgrading also emphasises the role of community participation as a key aspect of sustainable development. Isandla Institute quotes Abbott (2001) and unpacks both practical and

thematic approaches to upgrading which illustrates that understanding and implementing the process can be two different things.

In the context of Cape Town, many intermediary organisations and partnerships employ different strategies such as community mobilisation, participatory planning, enumeration and profiling, re-blocking and savings groups as methods of participation in order to achieve community empowerment. Even though most of these strategies are concerned with the improvement of the physical environment, they are intertwined with methods that strengthen community capacity and leads to community empowerment and citizen power.

On an international level, informal settlement upgrading practices also draw attention to the importance of robust community participation to ensure effective upgrading interventions and achieve citizen power. To illustrate this, the Isandla Institute (2014) reported that in Ahmedabad in India, the Slum Networking Project successfully completed an upgrading initiative. The organisation relied on a process of decentralized governance throughout its implementation. In this case, the local government formed partnerships with intermediary organisations and private sector firms which allowed the partnership to share costs and responsibilities. Therefore, it is clear that the upgrading of informal settlements have the potential to significantly improve the lives of the urban poor and lead to the achievement of citizen power through effective participation, as such partnership-based upgrading projects intersect with a variety of important social aspects (Isandla Institute, 2014: 22).

From this reflection it can be concluded that in the context of informal settlement interventions, partnerships become an effective tool which can be used to ensure that communities are able to access sufficient levels of citizen power. The next part of this chapter will further unpack the elements of these types of partnerships by exploring the notion of interdisciplinary role divisions in partnerships.

2.4 Understanding the theory of interdisciplinary role divisions in partnerships

When investigating partnerships from the viewpoint of uncovering the desired outcomes of a specified group, it is very important to recognise that this group usually has many different experts from many different disciplines. Therefore, the need to recognise the value of interdisciplinary partnerships is key. This part of chapter two will briefly discuss the definitions and applications of interdisciplinary research and learning. For the purposes of this literature review the working definition of the National Science Foundation of the United States of America is used as it was set forth in the 2016 National Academies report:

“Interdisciplinary research is a mode of research by teams or individuals that integrates information, data, techniques, tools, perspectives, concepts, and/or theories from two or more disciplines or bodies of specialized knowledge to advance fundamental understanding or to solve problems whose solutions are beyond the scope of a single discipline or area of research practice.” (National Science Foundation, 2016)

The above definition is loosely applied to this investigation in terms of the role divisions in partnerships involved in urban upgrading interventions. Each of the stakeholders within a partnership is viewed as having a certain set of skills or specialised knowledge about a certain topic related to an intervention. These specified skills contribute to defining what their capabilities are to participate in the intervention. These skills can be either technical (engineering, architecture) or social (management, training), which forms part of the necessary inputs. It is important to realise that different kinds of problems will require different kinds of interventions. The partnership should thus be tailored to meet the specific issues. This also means there is a need for interdisciplinary techniques to ensure that all aspects of a problem can be addressed correctly (Moynihan, 2012: 23).

2.4.1 Interdisciplinarity in urban upgrading interventions

Interdisciplinarity in urban upgrading interventions refers to a way of thinking or an attitude towards knowledge sharing and problem solving. It creates a platform (networked space) for a shared language between a variety of disciplines (Bursztyn, 2008: 25). It creates a vessel for stakeholders to analyse a problem from different points of view, which enables them to firstly identify the overarching issues and the core values of the issue – the sustainable management of greywater and stormwater in Langrug. In the case of the GOS partnership these values are: sustainability, holistic solutions and community well-being to name only a few. Thereafter each expert can grapple with the problem in their field, while keeping the overarching value system in mind. Questions that should continuously be asked and answered are: ‘what exists? And what is it we want to do?’ In terms of an epistemological system these disciplinary structures essentially create the need for continuous reevaluation and self-renewal (Max-Neef, 2005: 7).

Through this, specialised fields for participation in various projects between a wide variety of people – who would usually not have the opportunity to work together – is made possible. The opportunity for developing additional skills and stimulating leadership becomes possible (Jantsch, 1970; 425). This however does not express that every individual is to become an expert on many things. Immanuel Kant, as quoted in Frodeman (2011), states:

"All industries, crafts and arts have gained by the division of labour . . . one man does not do everything but each confines himself to a certain kind of work that is distinguished from all others by the treatment it requires" (Frodeman, 2011: 107).

2.4.2 Social capital in partnerships

Ultimately the structures that are built through partnerships and interdisciplinary attitudes all rely on human relationships. Therefore, the value of 'social capital' should also not be overlooked.

"Social capital can be defined as a trust between partners, the concern for one's associates as well as a willingness to live by the norms of a certain community" (Batt, 2008: 1).

The introduction of the concept of social capital into the interdisciplinary problem-solving models lies in the exploration of the potential of allowing for the different stakeholders, such as planners, technical support, community members and intermediaries to interact on an unprecedented level of cooperation (Sabatini, 2008: 1). All role-players have the ability to interact in with others in a certain manner.

"Social capital is a relationship of affinity and regard among people." (Schmid, 2000: 1).

Social interactions between people happen on a daily basis. When applying these networks positively, interpersonal cohesion is established, which in turn can influence daily activity in urban settings. By establishing a level of trust, the behavioural patterns of individuals are more predictable and the level of uncertainty is reduced. Social capital creates a potential for a sustainable improvement of quality of life (Sabatini, 2008: 430). Healthy social capital is a key ingredient of a successful partnership, and supplies valuable resources to achieve sustainable outcomes of well-being.

From this brief description of interdisciplinary partnerships it is clear that any successful partnership is made up of stakeholders from different disciplinary fields, each with a specific set of expertise which contributes to the needs of the partnership. It is also clear that the success of interdisciplinary structures is dependent on the quality of human relationships and the level of social capital between the individuals. With this information as background, the following part will look more closely at the different disciplines in a partnership working on an urban upgrading intervention. This is done to determine what the role of each of the disciplines is, and to establish the benefits of such a partnership.

2.5 Roles and responsibilities of the different role-players within a partnership

The previous part of this chapter discussed the value of interdisciplinary partnerships. In the case of the partnership in Langrug, there are four groups of stakeholders. Each group represents an important area that will contribute to achieving the goals of the Langrug project. They are:

1. Intermediary organisations

2. The community of Langrug and its leaders
3. Technical professionals
4. Local government

Based on these four groups it is clear that The GOS partnership can be described as an effective interdisciplinary partnership. Each group is extremely important to the success of a partnership-based intervention and each of them brings a unique set of skills to the partnership. Therefore, the roles and responsibilities of the government, intermediaries and the community will be briefly discussed below. The roles and responsibilities of the professionals will be discussed in more detail in the following section.

2.5.1 The role of the intermediary organisation

Nora Walker (1988) describes the main role of intermediary organisations as 'enablers' who help communities to negotiate with other stakeholders to access resources for better living conditions and achieve a higher level of well-being. Intermediary organisations help communities to organise themselves in order to better negotiate with the government or investors who usually control the resources (Walker, 1988: 6). The intermediary organisation also acts as a catalyst that mobilises the community around a commonly agreed upon set of problems.

Tovovich (2009) states that a catalytic intermediary organisation will encourage community members to question their situations and encourage them to find solutions together. The intermediary organisation also acts as a mediator between other stakeholders. For example, an intermediary could be a mediator between a group of community members and their local government (Enyioko, 2012: 6). The intermediary organisation plays an important role in the promotion, implementation and eventual sustainability of informal settlement upgrading interventions (Enyioko, 2012: 16). The role of the intermediary organisation is to create a link between the local community, the government and to a certain extent, the professionals. This intervening body steps into the partnership to network between partners and to integrate the grassroots efforts of the community with the legislative processes of the governing body. An intervening body that is proficient, open-minded in their approach to collaborations, and who acknowledges the specialisation of all of the different partners will be able to extract positive results from a partnership (Earle, 2011: 63). The role of an intervening body is usually at grass-roots level – working with the local civil society networks to create a more integrated bottom-up solution rather than top-down interventions (Earle, 2011: 66).

2.5.2 The role of the community

In terms of the roles and responsibilities of the community members, it is widely recognised that informal settlement communities possess important insights into their own challenges and have important skills and knowledge capabilities that contribute to innovative problem solving. Therefore, the community and its leaders play an intricate role in the forming of partnerships. Many communities

have already established leadership groups that are either formed by the community or with the assistance of intermediary organisations.

This investigation mainly focuses on the roles and responsibilities of these leadership groups as they form an intricate part of the partnership. These leadership groups are also sometimes referred to as community-based organisations (CBOs). They are usually based within communities and are representative of community leaders and elected community members. A community and its leadership will enter into a partnership with other stakeholders for a variety of reasons, but mostly partnerships are formed to operationalise increased access to service delivery and urban development in favour of the community (Cranko & Khan, 1999: 23). The role of the community and leadership groups is to hold government to account within the partnership, as well as to inform and guide the best course of action of the upgrading process.

2.5.3 The role of the government

The role of the government within a partnership mainly relates to creating an environment that is conducive to innovative and inclusive problem-solving. The government is furthermore responsible for facilitating the supply of resources and ensuring effective leadership. They are also responsible for the administration and management of projects, and to appointing the correct sub-contractors for the project. It is the role of the municipal government to institutionalise mechanisms that coordinates the activities of the different stakeholders to monitor progress and to identify bottlenecks in terms of issuing approvals and permits, or any other authorisation required for the implementation of an upgrading intervention.

Government officials should be sufficiently capacitated to provide these functions effectively and timeously (UN-Habitat, 2011a: 8). Government also plays a catalytic role within the intervention process rather than acting as a sole service provider. Government should guide rather than steer the process by empowering other stakeholders to be highly responsive in creating innovative solutions to the challenges of communities. This section promotes the shift away from the government as a provider to local government as a leader, facilitator and representative of the partnerships in dealing with other levels of government. Government officials also need to be sensitive enough to the intricacies of the social and economic complexities within communities. Key officials need to be available and willing to fully engage with communities and other stakeholders to establish a level of trust and transparency, which are very important characteristics for a successful partnership.

In conclusion, the most important role of government is to concentrate less on direct implementation of physical interventions. Government focus should rather be placed on creating incentives and facilitating measures to improve services and development within communities and households. In a way, the government enables all other stakeholders to reach their full potential within the partnership (Cranko & Khan, 1999: 33).

The following subsections of this part of chapter two will scrutinise available literature which deals with the specific role of the professional in urban upgrading interventions based on demand-driven partnerships, as opposed to supply-driven interventions. The limited scope allows the researcher to conduct intensive research on the research question regarding partnership-based interventions.

2.5.4 Technical professionals as the key to successful partnerships

According to the 2014 publication *A Practical Guide to Designing, Planning and Implementing Citywide Slum Upgrading Programs* developed by UN-Habitat, local governments should be responsible for leading the design and implementation of upgrading interventions, and play a role in the management of these demand-driven interventions (UN-Habitat. 2014a, 28). The publication also states that it is advisable to develop a multi-disciplinary team of stakeholders in the fields of urban planning, engineering, public administration, finance, economics, social sciences and community development. Most importantly the publication emphasises that the participation of the community in the planning, designing, implementation, and evaluation stages of a project is very important.

Community members are recognised as key role-players in any upgrading process, and should be involved from the earliest phase of an intervention (UN-habitat. 2014a, 41). Since they are best equipped to indicate the needs of the community in which they live. If a truly collaborative partnership can be established, it will enhance the likelihood that the intervention will succeed (UN-habitat. 2014a, 43). Communities are, however, not always allowed to participate and engage on all levels of such projects. Therefore, an attitude change is required wherein professionals and decision-makers accept that community members may provide valuable insights and contributions when it comes to what is needed within the community. Professionals and decision-makers should also recognise that in many cases the most useful role that they can play is as facilitators who support rather than dictate and prescribe (UN-habitat. 2014a, 49).

Literature suggests that (well-organised) communities have a critical role to play in solving governance issues related to public service delivery. Therefore, in recent years participatory approaches to development have become more common as methods to address issues of service delivery to, and upgrading of informal settlements (Jones, 2003; Agarwal, 2001). However, this approach does not clearly indicate the role of the professional. In many cases in South Africa there are still mismatches between the roles of professionals providing technical services and the voice of communities. Literature and best practice methodologies promote collaboration in partnerships as a means to facilitate trust and transparency between stakeholders. Successful collaboration requires a high level of trust between all partners. In the development of human settlements context, interdisciplinarity is initiated between communities, intermediaries, government officials and professionals (White, 2010: 162).

This process is often difficult to manage, in many cases the partners do not share common goals or there is an exclusion of certain stakeholders. In these cases the likelihood of disappointing outputs is very high. Therefore, all partners need to continuously invest in inclusive collaborative processes by nurturing trust and building social capital (Vangen & Huxham, 2016: 12).

South Africa is still highly dependent on specialist and external sources for many technical and professional skills, and this sector provides expert advice to government. The actual implementation of this expert advice, specifically in the context of informal settlements highlights the disjuncture between professional skills and grassroots knowledge. The lack of a functional partnership highlights this disjuncture and makes it virtually impossible for stakeholders to transfer skills and communicate effectively (Naidu, 2010). This phenomenon requires a paradigm shift in order to facilitate more sustainable outcomes for the holistic development and empowerment of marginalised communities.

South African professionals therefore have to 'skill up' and be capacitated to address non-professional considerations when dealing with informal communities as well as other stakeholders and should be able to advise government on co-created and innovative plans that are suitable to the context and sustainable (Naidu, 2010). A culture of social consciousness should be cultivated by professionals. Technical professionals who are equipped with knowledge, practical skills and the values of partnership-based action and collaboration can make a huge contribution to the human development of individuals and communities (Walker & Mclean, 2010).

Professor Mark Swilling, et. al, (2013) state that a new approach is needed with an emphasis on the co-production of new and transformational knowledge with the intended beneficiaries of the knowledge outcomes in mind (Callon, 1999; Pohl & Hirsch Hadorn, 2007). This approach goes beyond methods, where participation is a mere tool (Max-Neef, 2005). Participation has to be handled in a way that recognises all stakeholders equally and utilises each one's capabilities as an essential part for the co-production of shared outcomes (Swilling *et.al*, 2013: 1). There are a few examples of the concept of in-depth partnership development with professionals in South Africa. However, more often than not, professionals are left out of partnerships between intermediaries, communities and government, and are only required to supply isolated technical services without being fully included in the partnership.

2.5.5 The role of professionals in partnerships

The role of the professional within a partnership-based settlement upgrading intervention is, as with any other project, to provide the correct and relevant information to the consumers on the products or services available that addresses the specified need. The difference with a partnership is that the need is not determined by the professional or the consumer in isolation, but is rather the result of a discussion between all stakeholders.

The professional possesses the technical expertise and has the responsibility to make informed suggestions to solve the issue at hand. The professional should also engage in non-technical matters and ensure that end-users are informed of the benefits as well as the constraints of the chosen solutions. The professional should furthermore ensure that the end-users are able to use, manage and maintain the service or product. This may include capacitating community leadership structures, developing the technical skills of community members or even building the capacity of municipal government officials (Bos & Smout, 2001: 21).

The typical characteristics of a professional within a partnership include being flexible and adaptable to the processes of the partnership. The professional should be able to provide different and often innovative solutions to complicated challenges that will be able to serve communities in a way that empowers community members to drive their own development. Therefore, the professional should be able to facilitate and should be able to listen to all stakeholders instead of only informing the decision-making process in a technocratic way ((Bos & Smout, 2001: 22). One of the things many professionals find difficult to do is to relinquish control, and accept that in many partnership agreements it is the non-technical issues that dictate the technical ones. A partnership requires equal participation and buy-in from all parties, including the professionals. Thus, a common vision between the technical and social sides of such an intervention is of utmost importance. An inadequate understanding of this balance from either side can jeopardise the project and can potentially harm a partner-community (Bos & Smout, 2001: 23).

Sarah Charlton (2006) distinguishes between 'process' and 'product' when investigating four informal settlement upgrading experiences. The general policy narrative regarding the upgrading of informal settlements aims to address several complex and interrelated objectives, including issues of tenure security, health and safety, and empowerment. These objectives are achieved through different and separate avenues. According to policy narrative health and safety is achieved through the provision of engineering and infrastructure, while empowerment is achieved through the promotion of social and economic integration.

Community empowerment can further be advanced through the provision of social amenities and community facilities (social development), the development of local economic infrastructure (economic development) and the active participation of communities in the design and implementation of certain projects (social capital). Thus, interventions can be divided into two different aspects: the delivery of physical 'products' and achieving goals of empowerment through a 'process' of separate community participation (Charlton, 2006: 51). This approach can become problematic if these two aspects are viewed in isolation. Rather, a wider conceptualisation is proposed wherein empowerment is viewed as the direct result of community participation in physical 'product' interventions to address issues of health and safety as well as the provision of infrastructure and engineering. According to Charlton's approach, empowerment is

defined as “the degree to which community structures manage, control, direct or own development projects” (2006: 56).

It is clear that technical interventions are irreversibly linked to social challenges and therefore social issues should be considered by all partners throughout the intervention process. Important factors such as how the development will impact a community member’s sense of place, what value the people attach to the area that they are living in, what livelihood strategies exist currently and how new strategies can be developed; should be considered throughout and not be left until the end of the project when it is too late. A lot of time and money can be saved if these issues are addressed early on and the likelihood of the long term success of the intervention is much more likely. Therefore, carefully considered technical solutions can have positive social impacts as well. For example, energy efficient housing designs can save community members money on their electricity bills.

These types of considerations are only fully achievable if professionals work in close partnership with other role players. Thus, each professional working on urban upgrading initiatives has a responsibility to work in partnerships to be able to holistically determine what the best solutions will be – socially, environmentally and economically (Aucamp, 2005: 3).

There is a tangible urgency for the role of the technical professional to move from having all or most of the decision-making power over infrastructural or urban upgrading interventions, to incorporating some or all of the following considerations:

- The choice of the technology which can match the affordability of the project should be used. It is no longer acceptable for a technical professional to provide a specific technology in isolation. Instead the professional should be able to provide a variety of different technological options for the partnership to discuss and evaluate.
- The use of different and innovative construction techniques should be encouraged. Innovative techniques can also bring about job creation opportunities on different scales, and introduce new options for project costing and project design.
- The capabilities of the user of the intervention to maintain and manage it over time. This consideration impacts on all levels of the intervention: design, costing, technology used and construction. This consideration also requires of the technical professional to be involved on different levels and with different stakeholders throughout the planning and implementation of an intervention.

(Abbott, 1993)

These suggestions and many similar suggestions have been proposed in engineering and development literature sources, some of which have been discussed in this literature review. However, in most cases these suggestions are only based on technological, design and costing considerations. The issue

therefore is that these suggestions do not explicitly encourage or guide the professional to fully participate as an irreplaceable member of a partnership.

2.5.6 Participation and empowerment in South African informal settlement upgrading

In South Africa, many communities living in informal settlements are creating and transforming urban space at a pace that is far quicker than the pace at which technical professionals can design these spaces. In light of this phenomenon it becomes imperative that technical professionals as well as community members and other relevant stakeholders need to work together in partnership to develop demand-driven solutions which empowers communities through urban upgrading interventions. Currently in South Africa these types of partnerships – where communities are empowered and able to access ‘citizen power’ – are not too common and based on this literature review it is argued there are two main reasons for this:

1. The current regulatory systems in South Africa do not necessarily allow for the high levels of collaboration that are required to achieve 'citizen power'. Policies and guiding documents on technical and professional services are out-dated, and as the Sweet Home Farm case showed, can severely restrict otherwise effective and empowering partnership-based developments. In chapter 3 these issues will be discussed further.
2. Given the current regulatory systems, urban development in South Africa is still highly dependent on specialist and external sources for technical interventions. The result is that the actual implementation of this expertise, specifically in the context of informal settlements, more often than not fails to be truly successful. In these cases a truly interdisciplinary partnership-based approach, as described in the literature is often missing and makes it virtually impossible for stakeholders to participate effectively. The reviewed literature suggests that a paradigm shift is required to create more sustainable outcomes for the holistic development and empowerment of communities. The problem is that it seems that there are no sufficient guidelines available to the technical professional to enable such a paradigm shift.

As explained above, participating in a successful partnership-based urban upgrading intervention requires more than purely technical expertise. This research recognises that technical interventions are irreversibly linked to social challenges and therefore argues that the professional needs to be guided to contribute more intentionally and effectively to addressing social as well as technical challenges. This research also recognises that clear enough recommendations to guide the professional to be effective in this regard is lacking in existing theory. Therefore, this research suggests using the capability analysis as theoretical tool to look at the core material and relational assets available to a professional to be able to influence a certain situation. The tool will be used to measure how assets available to a professional, within a certain context, can be utilised to contribute to

community empowerment. The findings from the capability analysis tool will ultimately be used to develop some guiding principles for technical professionals working in partnerships.

2.6 The capabilities of the professional

It is with this background that the capability analysis approach (originally developed by Amartya Sen in 1999) is utilised as a theoretical tool to investigate the different assets which might be available to the professional to contribute to addressing the social and technical challenges of urban upgrading interventions. It is furthermore argued that these challenges can only be overcome when a professional forms part of an interdisciplinary partnership. The next part of chapter two will give an overview of the capability analysis approach and apply it to the context of urban upgrading.

2.6.1 Overview of the capability analysis in urban upgrading

First of all, it is important to define the concept of 'capability analysis' and 'capabilities'. For the purposes of this dissertation the definition of capabilities is understood in terms of the work of Amartya Sen, as described by Frediani and Hansen (2015). The capability analysis is an economic theory that was developed in the 1980's. In this approach the philosopher Amartya Sen argues that when analysing well-being, there needs to be a shift in focus from "the means of living" such as material income, to the "opportunities an individual has", in other words their functioning and capabilities (Hick, 2012: 2). The capability analysis theory allows researchers to investigate and understand people's real opportunities to do and be what they have reason to value (Wells, n.d.).

Sen's theoretical approach creates a platform to express the ideals of well-being, and the work of Frediani, and by extension the DPU, expands upon this approach by applying the theoretical frameworks and concepts to evidence-based research on partnership-based urban upgrading interventions. According to Alexandre Frediani, (2015) capabilities are the people's freedom to achieve the things that they consider valuable. These include material things as well as experiences. It is important to understand that there is a difference between 'capabilities' and 'capacities'. In this sense 'capabilities' make reference to a wider set of possibilities that can have an influence on people's abilities to pursue their desired level of well-being. This specific analysis approach does not focus solely on the subjective goals or on objective well-being patterns that are external to the people. It rather focuses on the ability of the people to shape their lives in a meaningful, holistic and sustainable way (Frediani & Hansen, 2015: 5).

In order to achieve this freedom people have to be fully aware of what tools they have available to them to achieve a fully sustainable level of well-being. Frediani (2015) goes on to explain that the concept of this freedom can be understood through three expressions: choices, abilities and opportunities. Each individual (in this case the professional) has these expressions available to pursue well-being. 'Choices' are defined as the strategies that are available to a person to achieve their

freedom. 'Abilities' are understood as the set of skills a person has access to, which can be used to achieve the desired level of well-being. Lastly, 'opportunities' are seen as the external structural elements that make the choices and abilities to achieve well-being possible. The 'expressions' mentioned here will be elaborated on in more detail in the following summary:

- **Choices** - Recognise the everyday practices of people to achieve an alternative future within the context of a certain situation. In terms of participatory processes, these could include for example an agreed upon housing strategy in the case of a housing freedom context. These might include self-help strategies, cooperatives, and social rent.
- **Abilities** - Deal with the concept of 'access to assets' to pursue a certain set of functions related to the desired level of freedom. These abilities are categorised in terms of access to human, physical, natural, social, financial and political assets.
- **Opportunities** – Explain the structural environment that governs the capability space. It is important to engage with these norms to ensure that the external context of the choices and opportunities create a beneficial space to ensure that inequalities are not reproduced.

(Frediani and Hansen. 2015, 6)

A capability analysis cannot be conducted without an intensive assessment of the relationship between these three expressions. In essence, this type of analysis serves as an investigation of how a person tries to achieve the concept of 'well-being'. This analysis in terms of infrastructure planning immediately brings to mind the issues of urban inequality and the unequal distribution of capabilities that is ever-present in South Africa. It is therefore of the utmost importance to understand the effect of social diversity and inequality especially in the context of countries and cities where informal settlements are common (Frediani & Hansen, 2015: 4).

The interplay of these three expressions of the capability analysis (see fig 2.2) is important when it is applied to partnership-based urban upgrading interventions. The management and distribution of resources is subject to the structure of the relationships between stakeholders and therefore engagement on all levels of participation is critical. The reason being that it is argued that poverty, inequality and other related issues prevent some stakeholders from accessing certain assets (Frediani & Hansen, 2015: 7). Furthermore, as Armanios (2012) indicates, it should be noted that in this theoretical approach to urban upgrading interventions there are different of the word 'capabilities'. Some argue it refers to the skills needed to seize a certain opportunity and others argue it refers to the actual opportunities themselves. For the purposes of this review, as earlier stated, 'capabilities' will refer to the skills needed to seize an opportunity.

According to Frediani (2015), when the capability analysis is correctly utilised, it can determine the relations between materials, and relational and subjective components of a desired well-being – which can be useful in cases of social inequality and access to infrastructure amenities. It is important to understand that the aim of the capability analysis is not to determine a certain level of objective

comfort or happiness. It is rather used to place the importance of a holistic approach on a level of well-being within the sphere of social inequality debates. It should also emphasise the importance of recognising all the assets that are available (Frediani & Hansen, 2015: 4).

This approach to capability analysis as developed by the DPU in London has been applied to the upgrading of various informal settlements around the world. In most cases it was found that through communicating with informal settlement dwellers by using a partnership-based approach, the informal settlement dwellers expressed a set of 'freedoms' relating to a dignified life and a safe shelter. Some of these freedoms as documented by Frediani (2015) in Brazil are: the freedom to healthy living environments, the freedom to afford living costs, and the freedom to maintain social networks. These freedoms are also connected to other external structures such as government and legal structures. In order to achieve these freedoms, the external structures need to be included in the analysis. In order to achieve such a complex analysis, the concept of a 'capability space' is introduced by Frediani (2015).

The diagram below illustrates a capability space. The capabilities are expressed as choices, abilities and opportunities. These are always bound to the context and accordingly these expressions are converted to the well-being outcomes which are valued in that specific context. This figure ultimately aims to draw the attention to the well-being trajectories, thus the emphasis is on the process that is followed to achieve these aspirations (Frediani & Hansen, 2015: 8). This diagram can be applied to individuals or groups, but for the purpose of the research question, the diagram will be applied to the professional within a partnership to determine which materials, relational and subjective components the professional has available within a specific context to contribute to achieving the desired well-being outcomes.

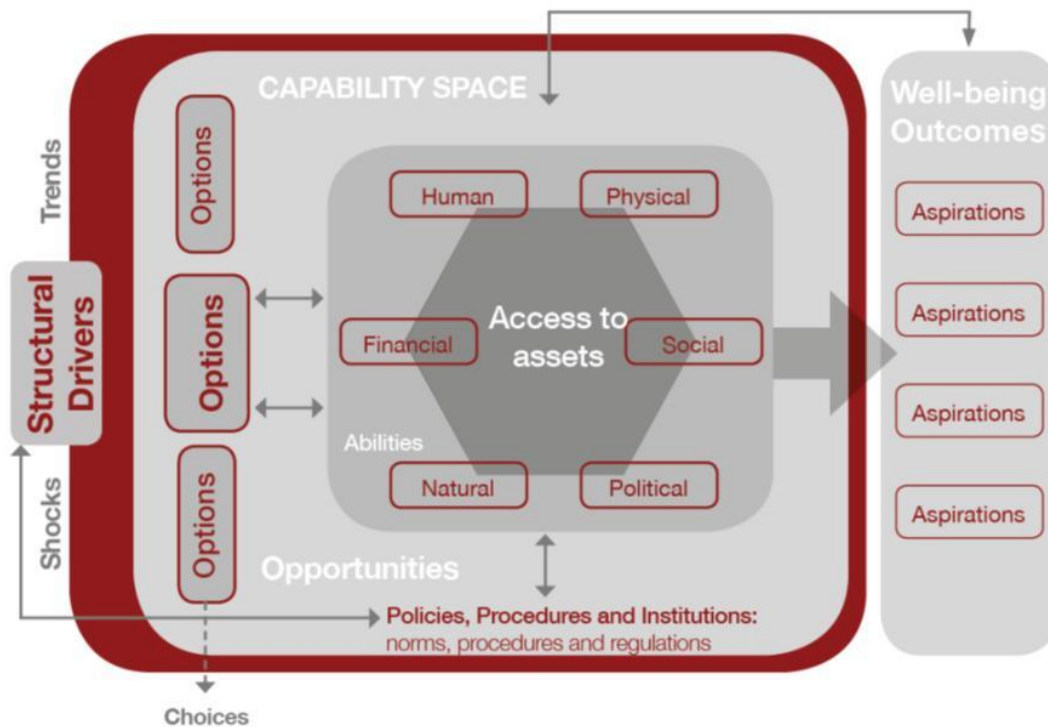


Figure 2.2 The Capability Space Analysis (Frediani & Hansen, 2015: 8)

The capability analysis diagram can be used to unpack different assets a certain stakeholder has available to contribute to a more successful partnership-based intervention. Furthermore, this strategy investigates the future expansion of the identified capabilities. (Sood, 2010: 109). A Participatory Action Plan as described by Sood (2010) allows for a more strategic solution-based process and less of a problem-based analysis. This diagram also allows for identifying the existing capabilities of stakeholders and how best to use these capabilities in a given scenario. It is important that such values are built into the initial decision-making process by identifying the goals and priorities in terms of the task at hand (Sood, 2010: 109). This diagram will be further utilised in chapter six to unpack the different assets available to the professional in the GOS partnership in Langurg.

2.7 Conclusion

This chapter was used to investigate the existing literature on how partnerships function and the value thereof; it also determined the role of the professional within partnerships. The review showed that existing literature does not explicitly guide the professional to fully participate as a member of a partnership, and therefore the capability analysis approach was introduced as a theoretical tool to investigate all of the different assets which might be available to the professional to contribute to addressing the social as well as the technical challenges of urban upgrading interventions. The literature discussed throughout the chapter, which led to this conclusion dealt with partnership development as a means to empower citizens, the principles of participating in partnerships, the

different roles of the participants in partnership, the value of interdisciplinary role division, and finally provided a deeper understanding of the theoretical roles and responsibilities of the different disciplines within an urban upgrading partnership.

The first part of the chapter explained the reason for creating partnerships, to counteract the traditional methods of service delivery, and showed that successful partnerships in urban upgrading interventions actively involve community members to participate in the decision-making processes. The chapter further illustrated that partnerships are recognised as the solution to addressing the complex challenges South Africans in informal settlements face. Many scholars agree that partnership-based urban upgrading interventions can enable better access to basic services and housing as well as other social opportunities, and recognises the importance of empowering communities (Fieuw, 2015). The chapter also shows that partnerships are most efficient when different stakeholders are able to fully participate. Also, the concept of 'participation' was discussed in further detail by calling attention to existing literature on the topic.

According to existing literature, development through participatory processes should lead to equitable power distribution between communities and other stakeholders. Any intervention of such a nature can then be seen as a means of empowering people to take actions which will influence the outcome of decisions that concern them.

In the context of urban upgrading interventions, such as Langrug, the need for participation as a tool to achieve community empowerment is recognised by several stakeholders. In response to this the 'Ladder of Citizen Participation' (Arnstein, 1969) showed that not all levels of participation are efficient enough to provide citizens with the type of power expounded by Moser. Arnstein's illustration highlighted that successful partnerships need to have community empowerment at its core. Building on this, Paul (1987) highlighted that participation as a tool for engagement has to be used by various stakeholders. His theory focussed more holistically on the different elements that make participation possible. In addition to Paul's statement, Mac Kay (2004) stated that participation provides a platform for sharing information and setting common goals. She further stated that each stakeholder has different responsibilities within a partnership.

A brief description of interdisciplinary partnerships was introduced to show that a successful partnership is made up of stakeholders from different disciplines; each with specific expertise which contributes to the needs of the partnership. The literature also showed that the success of interdisciplinary structures is dependent on the quality of human relationships and the level of social capital between the individuals from the different disciplines. The different disciplines involved in the project in Langrug where: intermediary organisations, the community of Langrug and its leaders, professionals and the government. The general roles and responsibilities of these identified disciplines were also discussed based on relevant literature and theories.

The literature provided suggestions and theoretical guides. It recommends that the professional needs to make a paradigm shift in order to ensure that more sustainable outcomes can be achieved. Finally, the review identified two possible hurdles the professional experiences to effectively making such a paradigm shift. The first being that South Africa's regulatory systems do not necessarily allow for the high levels of collaboration required to achieve 'citizen power', and secondly that many professionals are not sufficiently exposed to practical and context-based guidelines to fully participate as a key member in the partnership.

The capability analysis was therefore introduced as a tool to determine what capabilities a professional, within a certain context has available to contribute to such a partnership. This tool will ultimately be used in the later chapters of this dissertation to contribute to the development of guiding principles for technical professionals working in partnerships. The use of the capability analysis framework will be key to the success of the research as it allows for a systematic unpacking of the different elements which contribute to the context of any intervention. When a number of different role-players participate in an intervention and form a particular partnership, and one tries to investigate the nature of the partnership and its context, it is necessary to be able to make use of a tool which will allow for the unpacking and grouping of all of its elements. In the case of this study, the capability analysis framework serves as an excellent tool for the researcher to be able to unpack the partnership in order to focus on only one element thereof – the professional – while still viewing the one 'element' in relation to all of the other elements.

Having introduced the capability analysis and its relevance to the development of practical guidelines for partnership-based professionals, the next chapter will give a brief review of the policies, and the current regulatory systems in South Africa will be discussed in terms of effective and empowered partnership-based developments.

CHAPTER THREE: POLICY REVIEW ON INFORMAL SETTLEMENT UPGRADING

3.0 Overview

In South Africa the history of socio-political control, exercised through the state-driven policy of apartheid still continues to influence the relationship between government and citizens today. The legacy of apartheid still is evident in the large amount of informal settlements, especially on the periphery of urban areas. It is estimated that there are over a million households living in under-serviced and unsatisfactory informal shelters in over 2 600 informal settlements in 9 of the major cities of South Africa (Del Mistro & Hensher, 2009: 333). Many of these settlements are often the scene of violent protests where protestors demand basic services and housing from local governments.

With these circumstances as background, this chapter seeks to provide a contextual view of the policies that have been put in place since the democratisation of South Africa to address these issues. This review will also provide more specific insight into the context of the Langrug informal settlement and how these policies and more importantly, their implementation affect the settlement and its development. It will also show how the professional can and should be positioned within the implementation of these policies to promote real solutions. It is important to note that even though this dissertation does not necessarily investigate housing issues, the National Housing Acts and Housing Codes will be discussed later in the chapter. These documents contain guidelines and implementation 'rules' for upgrading informal settlements, as well as basic service provision and is therefore relevant to the study.

This chapter is divided into eight parts. The first part provides a brief background of the urban sector housing interventions prior to the establishment of democracy in 1994. The second part describes the immediate reaction of the democratically elected government to the housing crisis after 1994. In the third part the South African Constitution of 1996 and the Housing Act of 1997 is discussed in relation to basic human rights in the provision of viable housing. The fourth part will review the Breaking New Ground (BNG) plan of 2004 and its implications on interventions in informal settlement upgrading and the supply of basic services and housing provision. In part five the National Housing Code is discussed in more detail, with specific focus on the Upgrading of Informal Settlements Programme (UISP) and the value of partnerships in the implementation of the UISP. Part six provides commentary on the implications of rigid policies and design guidelines on the role of the professional in projects in informal settlements. The seventh part reviews the settlement and housing policies that impact on the Stellenbosch Municipality and the settlement of Langrug. The eighth and final part concludes the chapter and introduces the following chapter.

3.1 The legacy of apartheid housing and settlement policies

The apartheid policies of the pre-1994 South Africa divided South Africans into 'white' and 'black' citizens who lived separately. 'White' areas consisted of well-serviced and planned urban areas, while 'black' areas consisted of poorly-serviced urban and rural areas (Marais, 2005). The government sponsored housing and settlement interventions in the form of hostels for migrant workers established several dormitory towns, and in many cases forced families to relocate to alternative areas based on race. The alternative areas where housing was proposed often lacked adequate commercial and community facilities. These policies created great tension and the government eventually established site and service areas (after the repeal of the Influx Control Act) to accommodate the growing number of black citizens migrating to the major cities in the 1980s and early 1990s (Del Mistro & Hensher, 2009: 330). The rate at which these provisions were made could not match the demand and by 1994, at the start of South African democracy, cities were already struggling to address issues of housing and basic services as informal settlements kept on growing exponentially. The consequences of these interventions form a large part of the constant reminder of apartheid policies (Del Mistro & Hensher, 2009: 335).

3.2 The RDP housing programme: responding to apartheid

After the 1994 democratic election the government inherited a major housing crisis and as an immediate response the government embarked on a very ambitious programme to provide 1 million houses within the first 5 years of democratic leadership by introducing the Reconstruction and Development Programme (RDP) housing programme (Del Mistro & Hensher, 2009: 334; Landman & Napier, 2010; Parnell & Hart, 1999). The RDP housing programme was proposed to rectify the housing backlog by financing the acquisition of houses for individual households that were previously (before 1994) disadvantaged by apartheid policies.

This programme however proved insufficient in addressing the high number of backlogs and the supply of houses through this process could not meet the demand of housing. This resulted in insufficient public services which once again prompted public protests regarding housing and basic services. The RDP housing programme essentially fell short of being a sustainable solution right from the beginning, and was unable to deliver on the promise made of housing one million South Africans within five years. The result is that a continuously growing number of South Africans are still subjected to living in insufficient housing conditions in un-serviced informal settlements. In assessing the RDP programme, it shows that this the programme has required the relocation of many households living in informal settlements to RDP houses which are located mainly on the periphery of larger urban areas and bares many resemblances to standardised dormitory housing developments of the past (Huchzermeyer, 2003: 595).

This process has in actual fact condemned many of the initial beneficiaries of the programme to continued socio-economic exclusion. The relocation of citizens to RDP programmes in many cases has weakened their social networks and livelihood strategies. The RDP programme is widely criticised for many things, but one of the main critiques is that the policy is too state-centric and that there is an isolated focus on housing provision alone instead of addressing issues regarding basic human rights as a whole (Del Mistro & Hensher, 2009:334; Huchzermeyer, 2006). The RDP programme was thus flawed in scope as well as process and proved to be an unsustainable policy in addressing pro-poor housing and socio-economic development.

3.3 The National Housing Act of 1996 and 1997: addressing basic human rights

Following the realisation that the RDP programme would not be sustainable in addressing basic human rights as a whole, a new policy direction was developed. The National Housing Act (No. 10 of 1997) was adopted to provide for the facilitation of a sustainable housing development process and to lay down general principles applicable to housing development (Habitat for Humanity South Africa, 2017). The National Housing Act also contains the National Housing Code which is used to clearly set out, in one comprehensive document, the National Housing Policy of South Africa. This policy describes the overall vision for housing in South Africa and stipulates how it should be implemented. The National Housing Act requires the Minister of Housing to publish the National Housing Code containing administrative guidelines that facilitate the effective implementation of the National Housing Policy. The Housing Code, however, does not replace legislation and laws set out by the Housing Policy; but rather provides an overview and confirmation of the policy (National Housing Act, No. of 10 1997, 1997: c3).

The National Department of Human Settlements (previously the National Department of Housing) is currently developing a discussion document titled *Towards a Policy Foundation for the Development of Human Settlements Legislation* which will provide the base for the new White Paper on Human Settlements, which will replace the National Housing Act of 1997. The publishing of this new Draft White Paper signals the beginning of a discourse and an extensive consultative legislative reform process that will culminate in the development of a new Human Settlements Act in accordance with the government trajectory outlined in the National Development Plan for 2030 (Habitat for Humanity South Africa, 2017). It is also important to note that these Acts and Policies, especially the revision of the National Housing Code and the development of the new Human Settlements Act, has huge implications for the upgrading and development of informal settlements which goes far beyond only housing. Therefore, the discussion of these policies and documents are of the utmost relevance to this dissertation as the study investigates the sustainable and holistic upgrading of informal settlements that goes far beyond just housing and services. The specific programs in the National Housing Code that has relevance to the Langrug informal settlement will be unpacked and discussed in detail later in this chapter.

3.4 The Breaking New Ground approach of 2004

After the implementation of the Housing Act and the Housing Code it became increasingly apparent that the policy direction which has been set had a rather narrow focus on housing, and did not take into consideration all the elements required to make human settlements sustainable, inclusive and thriving. Thus in 2004, Cabinet adopted a Comprehensive Plan for the Development of Sustainable Human Settlements called the Breaking New Ground (BNG) plan, as the new strategy to ensure that a more holistic approach is taken to the development of human settlements. However, accompanying legislation to guide and provide for the new vision captured in Breaking New Ground was never drafted, which meant that the National Housing Act of 1997 continues to provide legislative guidance for human settlements development today.

The BNG plan was developed to “accelerate housing delivery as a strategy for poverty alleviation, advancing social cohesion and to use housing as a tool for the development of sustainable human settlements” (Department of Housing, 2004: 7; Del Mistro & Hensher, 2009). The BNG was planned to build on the Housing Act of 1997 and sought to create integrated and diverse communities with improved housing environments (Department of Housing, 2004; Tshikotshi, 2009). The plan proposes the concept of stimulating the supply of more diverse sets of housing options and settlement types, densities, tenure options and viable locations (Department of Housing, 2004: 8). The BNG plan also promotes the in-situ upgrading of informal settlements in an attempt to maintain already fragile community networks and minimise disruption through upgrading and enhancing community participation through these processes (Del Mistro & Hensher, 2009). The innovation of the BNG thus shows a recognition of the need to refocus efforts on in-situ upgrading and participatory measures in settlement upgrading. This approach to informal settlement development and the delivery of basic services is also promoted in certain areas and programmes of the National Housing Code, which will be discussed in more depth in the next part of this chapter.

3.5 The National Housing Code

As explained previously in this chapter, the National Housing Code (NHC) acts as the implementation document for the National Housing Act of 1997. In Part 3 of this code the national approach to informal settlement upgrading is set out. The goal highlights the importance and value of in-situ upgrading (where possible) and also highlights government’s intention to fast track in-situ upgrading in order to provide and improve basic services as well as secure tenure to the residents of informal settlements in a participatory and inclusive way. The proposed outcome of this approach is that informal settlement households will see themselves as active participants in the upgrading process rather than being reduced to numbers on a waiting list for top structures (formal houses) and being totally dependent on the government to provide (South African National Department of Housing, Cities Alliance, 2011).

The National Housing Code contains a set of progressive programmes with excellent objectives regarding informal settlement upgrading and providing viable housing options, but the approach and thinking adopted in the programmes themselves does not always filter down into project-level implementation. This can be ascribed primarily to a lack of clear implementation guidelines, weak local government capacity and lack of community-centred partnership models for effective implementation. The National Housing Code is currently of utmost strategic importance as it sets the underlying policy principles, guidelines, and norms and standards which apply to Government's various housing assistance programmes introduced since 1994, and therefore plays a critical role in shaping the urban environment in South Africa (Habitat for Humanity South Africa, 2017).

One of the many subsidy programmes contained in the National Housing Code which is particularly relevant to in-situ settlement upgrading and has implications for the settlement of Langrug, is the Upgrading of Informal Settlements Programme (UISP). The following section of this part of chapter three will further unpack the UISP programme as part of the National Housing Code.

3.5.1 The Upgrading Informal Settlements Programme (UISP)

The UISP is administered by the National Department of Human Settlements (previously the National Department of Housing) and is one of the primary subsidy instruments used to meet national targets. Municipalities are mandated to act as the developers for the UISP in their areas while the National Upgrading Support Programme (NUSP) provides additional support. The three areas of focus of the UISP are basic service provision (including water and sanitation), security of tenure and community empowerment (NUSP, 2012).

As previously explained UISP is implemented by mandated local authorities. However, the capacity of local governments to deliver on its mandates is heavily scrutinised, and the evidence point to the fact that local governments in South Africa firstly do not have the required capability to successfully address informal settlement upgrading in line with policy intent, and secondly often do not have the ability to effectively address the challenge of spatial inequality, informality and low levels of quality of life through targeted actions. There are also still several challenges that hinder the effective participation of citizens in decision-making processes regarding sustainable development. Local and regional governments often have the task of engaging ordinary citizens, but they mostly lack the human capacity and institutional strength to facilitate such an interaction.

Due to this disjuncture, local government remains fixated on providing top structures as opposed to delivering basic services and providing tenure security, and sufficient and well-located land as stipulated in the UISP (Habitat for Humanity South Africa, 2017). According to the National Housing Code, the UISP policy is divided into four sequential phases. The first three phases are primarily dedicated to the preparation of the upgrade and the provision of bulk community infrastructure, and it is during Phase 4 that houses (top structures) will be built and the settlement formally established.

However, from a funding perspective the scope of UISP is limited to covering the first three phases, such as, the provision of serviced stands, while housing consolidation (phase 4) is facilitated through one of the housing development options provided by the National Housing Programme as a separate project. Several issues and shortcomings have been identified in the Policy as well as the implementation of the UISP programme, these issues are listed below:

- Despite the explicit intent to address social and economic exclusion by focusing on community empowerment and promotion of social and economic integration, and commitment to building social capital through participative processes and address the broader social needs of communities, there is limited implementation of true participatory approaches on the ground.
- The programme is premised on extensive and active community participation, and funding is accordingly made available to support the social processes. However, the allocated funding is not always drawn down and utilised for the intended purpose.
- Where the funds for social facilitation are utilised, it does not adequately cover the true costs of robust community engagement and capacitation processes that are often offered/presented by intermediary organisations/NGOs.
- Although the programme has been designed to facilitate the structured in-situ upgrading of informal settlements as opposed to relocation (with the latter only to be considered as a last resort), there is no well understood incremental in-situ settlement upgrading model, and despite progressive policies, the implementation of settlement upgrading interventions on a local municipal level is still primarily focused on isolated turnkey housing delivery projects on greenfield sites with associated mass relocation of individual households to peripheral locations.
- The programme has no clear outcome-level indicators which can be easily utilised to measure the impact of the UISP on households, and success continues to be counted by means of serviced sites and municipal service access ratios. In other words, the true measures of success are not defined, and the impact (in terms of the extent to which lives and communities have been transformed from a socio-economic perspective) is not clear.
- The programme is largely open for interpretation due to the lack of clear implementation guidelines.

(Habitat for Humanity South Africa, 2017)

It is clear that the UISP policy should work towards enabling communities to participate as active citizens, and become empowered to co-create – in partnership with government and other stakeholders – sustainable, integrated and resilient human settlements. This is however not always the case. The following section therefore briefly highlights the value of establishing partnerships between local government, communities, intermediaries and professionals.

3.5.2 The value of functioning partnerships: implementing the UISP

Partnerships are the most effective method of achieving the goals of the UISP; to increase efficiency, compensate for shortcomings, increase efficiency in dealing with blockages, transform attitudes and maximise resources in pursuit of a common objective. A partnership approach furthermore enlarges the circle of visionaries or problem-solvers, which has direct implications for the outcomes of an upgrading intervention (Habitat for Humanity South Africa, 2017).

From the investigation thus far it is clear that the viability of any informal settlement upgrading process is largely determined by the extent to which the residents of the informal settlement community are involved in the process of participatory planning, and to what extent they are empowered by the process. Participatory forms of planning and development allows government to explore and develop more democratic and effective forms of governance in which all citizens can become more cooperative and active in meaningful discussions that involve the future of urban development.

Healthy discussions regarding issues of settlement upgrading and sustainable development are the main building blocks of developing thriving neighbourhoods that are empowered and able to respond to context-specific challenges in a holistic way with sustainable solutions. Continuous communication between residents, professionals, intermediaries and local government can build trusting relationships that can lead to more effective service delivery, increased standards of living and alleviation of poverty (NUSP, 2012). It is also widely recognised that community-driven development and resource investment ensures shorter turn-around times on infrastructural projects and can save several costs in maintenance and repairs (South African National Department of Housing, Cities Alliance, 2011).

3.6 The implication of policy on practice: the role of the professional

As explained in the previous parts of this chapter; the UISP subsidy programme widely promotes participatory planning with communities as well as the development of viable partnerships. The stakeholders in these UISP partnerships should include the community members, community leadership, intermediary organisations, the local municipality and professionals providing technical services. However, in more cases than not, the role of the professional providing technical services is determined by a separate contract-based agreement where the local municipality and technical professionals have little to no interaction with the intermediaries and more importantly the communities they are working with.

These types of arrangements are hugely unproductive and unsustainable. In addition to this issue, the provision of basic services and infrastructure by technical professionals is almost entirely influenced by the conventional 'Guidelines for Human Settlement Planning and Design', better known as the 'Red Book'. This document outlines basic design standards for local infrastructural service provisions in the upgrading of informal settlements as well as the development of Greenfield projects. The Red Book in

itself was originally proposed to function only as a guideline, but over the years, the document has become more and more important and is viewed by several practitioners and municipalities as the ultimate minimum standards for settlement development. This is quite problematic as these (guideline) standards are relatively high and quite expensive, especially when one considers the anticipated usage of such services in low-income communities and informal settlements in relation to the clear service level intentions set out in the National Housing Code. An assessment report for the National Department of Housing that was completed in 2011, highlights some of these issues of Red Book perceived standards (guidelines) that are unsuitable in the context of pro-poor urban development and the upgrading and servicing of informal settlements. Some examples pertain to water supply, sanitation and access roads. The examples are as follows:

- **Water supply:** Unnecessarily high residual reticulation pressure (24m) is used to supply houses which are practically certain to remain single storey for the design life of the services, and are highly unlikely to incorporate high-pressure facilities since installed sanitary fittings are limited to a sink, shower, WC and wash basin at most. The residual design pressure could rather be substantially reduced, and along with it the pressure class and cost of pipes and fittings will be dramatically reduced, making it a more feasible option for low-income requirements. Furthermore, the design-demand based on the average consumption of 650 litres per household unit per day for a detached subsidy house is particularly high when one considers the limited sanitary fittings that will be provided in such a house – normal use of these fittings would be unlikely to exceed 400 litres per day.
- **Sanitation:** Conventionally designed waterborne sewage systems that are provided for in the guidelines are not always appropriate in informal settlements, especially in the higher reaches of the network. This can result in frequent blockages that occur due to insufficient flushing water that is in turn due to low usage and the types and quantities of solids being flushed into the system.
- **Stormwater drainage:** The guidelines clearly prefer the usage of underground pipe systems. This is also however questionable since the high levels of siltation and solids ingress from developed areas are quite high, which creates a high potential for blockages in the pipes.

(South African National Department of Housing, Cities Alliance, 2011).

The conventional approach to providing services, that many technical professionals and local governments utilise in a one-option-fits-all manner, creates obvious and long-term issues in informal settlements and in this way there is also little to no consultation with the community. There is also usually little to no consideration of the socio-economic implications of rolling-out the provision of bulk services, there are not always opportunities for skills-transfer and little to no opportunities for the development of innovative solutions to context-specific challenges in partnership with other stakeholders. It seems, however, that municipalities, like national and provincial government do acknowledge public participation in their plans and framework documents and it is noted that partnerships and participatory planning has the potential to drastically improve the municipality's

capacity to deliver basic services. However, most municipalities (or certain municipal departments) still lack the capacity and/or the political will to action these policies on the ground. The result is thus continued business-as-usual and by the book attempts at service provision.

3.7 Implementing national policies in the Stellenbosch Municipality

According to the Western Cape Department of Human Settlements (2010) the estimate of need for adequate shelter is approximately 2.1 million units, including 1.2 million in informal settlements. In response to this, the South African National Government has developed a strategic framework to address this and agreed on 12 outcomes as a key focus of work between 2010 and 2014. The eighth outcome in this document outlines the upgrading of 400 000 households that are situated in informal settlements in well-located areas. According to this, each province had a benchmark. The Western Cape benchmark was 45 360 households to be upgraded by 2013/14.

With a housing waiting list of 20 000 and a very small annual subsidy that only covers 300 housing opportunities, the Municipality of Stellenbosch – as many other municipalities in South Africa – is still grappling with the reality that there is insufficient capacity or resources to meet the ever-growing demand of housing by using conventional methods (Murcott, 2013). The Stellenbosch Municipality, realising its moral and constitutional imperatives to provide viable options to housing, improve shelter and deliver basic services created a dedicated Informal Settlements Unit in 2009 and in 2010 the unit became a full and dedicated department. The core duties of this department have since been to coordinate all informal settlements interventions in the municipal area.

After a court order in 2012, the Stellenbosch Municipality was forced to focus even more efforts and resources on the upgrading of the Langrug informal settlement's waste disposal system to prevent seepage into the water supply of nearby farms. Over several engagements and various efforts and with the realisation of scarce resources the Informal Settlements Department of the Municipality of Stellenbosch acknowledged the value and importance of participatory practices in line with the principles and procedures outlines in the UISP (Municipality of Stellenbosch, 2013: 62). This acknowledgement and the consequent decisions have had several positive impacts, which will be further unpacked in the following chapters.

3.8 Conclusion

This chapter reflected on the historical events that influenced the development of the current policies regarding housing and the provision of basic services, and was used to give a brief overview of the policies, planning frameworks and guidelines which determine how, when and through which channels informal settlement upgrading is rolled-out by local municipalities.

The reflection on current policies showed that even though the intent of these policies are progressive, the conventional approach to providing services on the ground, through these very same policies, does not allow for adequate consideration of the socio-economic implications of rolling-out bulk services, there are not always opportunities for skills-transfer and little opportunities for the development of innovative solutions to context-specific challenges in partnership with other stakeholders. Furthermore the conventional method of providing services is still highly dependent on external sources and technical skills to provide 'expert' advice to government, while the inherent grassroots knowledge regarding complex community needs are not taken into account.

On the contrary, policy documents recognise and emphasise that well-organised communities have a critical role to play in solving issues relating to the delivery of public services and that participatory approaches to development are obvious solutions to addressing issues of service delivery and the upgrading of informal settlements. The chapter furthermore highlighted the disjunction between policy recommendations and implementation on the ground and showcased the value of participatory planning, as promoted in almost all government policies on all levels. However, this disconnect between policy and practice provides an excellent opportunity for the development of well-functioning partnerships between different role-players, including the professional, to bridge the gap between policy intent and implementation on the ground.

Chapter three explained the implications of rigid guidelines on the role of the professional and it is clear that technical interventions are irreversibly linked to social challenges and therefore policies and implementation systems should be geared towards enabling different stakeholders to address these complex issues through. Within this, there is a palpable urgency for the government to become more agile, and to rather move from the role of provider to that of enabler.

Lastly, this chapter mentioned how deliberate pro-poor policy intent has shaped the Municipality of Stellenbosch's reaction to development challenges in the informal settlement of Langrug, and the circumstances around the partnership development in Langrug will be discussed in more detail in the upcoming chapters. The next chapter will explain the research methodology that was used to investigate the partnership-based intervention in the informal settlement of Langrug.

CHAPTER FOUR: RESEARCH METHODOLOGY

4.0 Overview

This research makes use of a case study research method to investigate a well-functioning partnership-based intervention to determine the role that the professional plays – within the partnership – to ensure that the technical interventions goes beyond basic service provision in isolation and aids in the sustainability of the intervention through the empowerment of the community. This case study is used to investigate the application of a capability analysis approach to understand the role of the professional by unpacking each stakeholder’s capabilities and highlighting how the successful role of the professional contributes to the sustainability of interventions like the one in the informal settlement of Langrug.

The study is designed as an analysis through qualitative methods that are developed as interpretive and descriptive modes of inquiry. This chapter is divided into eight parts. The first part explains the case study research method, in relation to a capability analysis approach. Part two elaborates on the applicability of the research method in the African context. This part is also used to argue the suitability of a case study research method for the study of Langrug. In the third part the specific research techniques, in terms of data collection and data analysis instruments are discussed. The fourth part explains the research questions at the hand of the methodology. The fifth part use the capability analysis approach to investigate the data collected from different sources. Furthermore, the sixth part explores the methodological limitations to the research and the seventh part explains how these issues can be addressed to ensure research validity. The eight part provides a conclusion to the chapter and also provides an introduction to the following chapter.

4.1 Case study method

Case study research is an investigation method which provides a framework for exploring real-life settings (Yin, 2009: 71). The research method is used to conduct an up-close and in-depth understanding of a single case that is set in the real-world context. The close proximity of the researcher in such cases is valuable in developing an intimate and deep understanding of the case (Yin, 2009: 23). Thus, this method was used to complete a study of the GOS partnership in the informal settlement of Langrug. The research was done to gain a better understanding of what the roles and responsibilities of partners within the intervention are, with specific reference to the role of the professional, and how the successful division of roles and responsibilities within a partnership-based intervention can ensure the sustainability of interventions. The case study method assumes that the context of the case is extremely important to the understanding of the case. Thus, the case study method goes beyond the investigation of isolated incidents (Yin, 2009: 36). A case study essentially allows for the highlighting of the general by looking at the specific.

This means that the case study is used as a research method focused on the individual features that could have wider implications. Furthermore, this research method also provides a more holistic approach rather than an isolated investigation. The method enables the researcher to place emphasis on relationships and social processes (Fernandes Cerqueira Nunes, 2015: 7). This is also the case in Langrug: the research method involved an intensive and rigorous analysis of the specific unit (Langrug), but also makes reference to other elements that influences the phenomenon. The case study briefly investigated the role of NGO's, local government, academic institutions, and professionals, the private sector, community members and civic leaders who are all working towards a sustainable improvement of Langrug. Again, the case study method was deemed appropriate for addressing qualitative research questions (Yin, 2009: 39). Context-bounded questions asking, 'what', 'how' and 'why' served as a useful point of departure to start to develop an understanding of the existing role-divisions in participatory-based urban upgrading initiatives in Langrug.

The case study research methodology can often be misunderstood due to its contextually-bound investigative measures. Bent Flyvbjerg (2006) describes five of the most common misunderstandings:

- General and theoretical (context-independent) knowledge, which is usually gathered through quantitative methods, is more valuable than concrete, practical (context-dependent) knowledge.
- One cannot generalise on the basis of an individual case therefore, the case study cannot contribute to concrete scientific development.
- The case study is most useful for generating hypotheses that could serve as the first stage of a total research process, while other methods are more suitable for hypotheses testing and theory building.
- The case study methodology contains a bias toward verification, that is, a tendency to confirm the researcher's preconceived notions.
- It is often difficult to summarise and develop general propositions and theories on the basis of specific case studies.

(Flyvbjerg. 2006, 221)

In spite of these common misunderstandings, many researchers find the close proximity to real-life situations, that a case study methodology offers, and its wealth of details important for two reasons. Firstly, for the development of a nuanced view of the 'real world' which cannot be meaningfully understood as simply the rule-governed acts found at the lowest levels of the learning process. Secondly, case studies are important for the researcher's own learning process and in developing the skills needed to conduct effective and relevant research. The close proximity to the case itself allows the researcher to develop their own skills through concrete and context-specific experience. In contrast to this, great distance from a study can easily lead to a stultified learning processes which can lead to research that is unclear and untested. As a research method, the case study can be an effective remedy against this (Flyvbjerg, 2006: 225).

The case study methodology is, as previously explained, mostly used to investigate topics in social sciences. Social science has not yet succeeded in producing research methodologies and theories that are general, context-independent and can therefore only offer knowledge products that are concrete and context-specific (Flyvbjerg, 2006: 226). This form of knowledge production is however very well suited for the field of urban development and planning. The following section will further explain the suitability of the case study methodology to investigating urban development.

4.1.1 Case study methods and urban development

The nature of urban planning and settlement development gives the case study methodology many advantages over any other research methods. This is due to the fact that case studies can better accommodate complex urban issues with often unclear boundaries, inputs and outputs. Campbell (2003) argues that some of the most influential urban development research has arguably been based on case studies instead of quantitative methods such as large statistical analyses (Campbell, 2003: 1). For many researchers, case studies are descriptive and investigative tools which cannot easily be replicated or generalised. Case studies are furthermore well-suited to very specific characteristics: causal questions can be asked about a contemporary set of events, there is difficulty in separating the phenomenon from its larger context, and there are often multiple sources of evidence (Campbell, 2003: 2).

These elements of the case study methodology are also characteristics of urban development research. Urban research is influenced by its spatial context, and these researchers also have a hard time isolating the phenomena being investigated from its context because the research is essentially the context itself – the complex cluster that is a city – that is the subject of study. Furthermore, urban development and research, is reliant on interdisciplinary methods. Unlike economics or other social and natural sciences, the field of urban research cannot be defined by a clear set of methods. Instead, urban research is rather defined by a set of both scholarly and practical questions (Campbell, 2003: 2). All these characteristics of urban research have led the field to favour the use of the case study methodology approach. Overall, the case study method is a far more flexible method which can tolerate the complex and spatially-bound elements of urban development (Campbell, 2003: 7). Now that the suitability of the case study methodology for investigating urban development has been established, the applicability of the case study method in the African context will be explained.

4.2 Applicability of the research method in the African urban context

Duminy, et.al (2014) describe case study research as a pre-eminent means of constructing bodies of theory and materials based on careful empirical analysis of that which does actually exist, as well as a critical reflection on how these realities have come to exist.

This form of research is important as it has the potential to capture and communicate very valuable and detailed contextualised knowledge.

It is further argued that case study research is especially applicable and useful in the education of urban planning and related fields as teaching methods based on the use of cases of 'reality' have the potential to produce more competent and more effective professionals, who would be better equipped to respond efficiently to the issues that cities face in the African context (Duminy *et al*, 2014: 2). Within the African context of urbanisation, and rapid urbanisation at that, there is a significant need for a methodological approach which allows for a fair amount of flexibility and innovation in the choice of analytical concepts and the use of different types of data. Due to the unprecedented rate of development and urbanisation, it is evident that practitioners, researchers and decision-makers urgently require the necessary knowledge that will enhance their capacity to address new and emerging issues as a result of rapid, and often unplanned and uncoordinated urbanisation. A fair amount of this knowledge must take the form of qualitative data to enable these stakeholders to understand the forces and patterns that drive the rapid urbanisation trend, and how to effectively respond to it. Until such a time when enough institutional and formalised knowledge is gathered, the case study methodological approach will seem to remain the most viable option for investigating topics of this nature (Duminy *et al*, 2014: 9).

In South African cities there is a palpable urgency to move from focusing on theoretical efforts and attention on the marginalised communities and informal settlements, towards taking more action to develop an understanding and articulating how issues on the ground can be addressed to contribute to the overall quality of life of the inhabitants of these spaces. Ideally, decision-makers should then be able to access both quantitative (trend-based) data as well as valuable contextual insights to provide well-informed guidelines for policy development which is underpinned by a contextual understanding of 'what works' (Duminy *et al*, 2014: 9). The case study method is therefore extremely valuable to the study of all cities in a variety of different contexts. Finally, Duminy *et al* (2014) refer to the writings of Lisa Peattie (1994) and argue that it is clear that the case study methodology is especially effective and suitable within the following scenarios:

- If the study is designed and executed in a very rigorous manner, and if the proposed study is aimed at contributing to other theoretical developments on a greater scale. This is especially valuable in the contexts of developing countries as case study methodologies can be effective in testing and contextualising existing findings from developed countries. By doing this, existing theories can also be contextualised which allows African urbanism (as a developing urbanism) to speak to urban and development theories on a global scale.
- When the case study is designed as the primary means of gaining highly relevant and contextual knowledge of the subject which can inform planning processes. The use of this method is then also useful in utilising these contextual realities to effectively inform policy.

- The nature of the case study method is robust in the sense that it can be applied to a wide variety of contexts and can accommodate different analytical concepts at the same time.
- The methodological approach is able to encourage engaged and grounded research that is well suited to promote collaborative agendas between a various stakeholders.

(Duminy *et al*, 2014: 10)

4.2.1 Suitability of the research method: The case of Langrug

The case study method was selected as the most appropriate analysis method to meet the objectives that were set out for this research. A partnership-based intervention brings people together in a way that might foster economic, physical, social and environmental development (Fernandes Cerqueira Nunes, 2015: 5). The aim is therefore to investigate this partnership within a specific context, which can serve as a 'model' that could be applied to similar cases. This report is a product of an interaction between the researcher and the research participants, and it is thus conscious of the importance of human systems (Lincoln & Guba, 1985: 12). This interpretive paradigm is based in the belief that reality consists of people's subjective experience and therefore, reality is socially constructed (Krauss, 2005: 114).

Langrug's investigation is also positioned within this paradigm. This means that none of the experiences of the stakeholders or research participants or even the interpretations of the researcher – as an observer – can be understood independently. The research should at all times be interpreted as a holistic investigation that considers the influences of perception of context and perceptions of other stakeholders on a participant's experience and expressions available to pursue well-being. Knowledge production that is context-dependent is at the core of partnership-based urban upgrading initiatives and intermediary organisations (NGO's), communities and other partners are constantly grappling to achieve a level of meaningful transformation and eventual well-being. Langrug is no exception. The case study research method is capable of producing a certain level of tangible ideas and findings on the influence of the professional as a stakeholder in the partnership. The use of a case study method allows for a research method that facilitates a deep understanding of the very complex issues around capability analysis and the management of expectations in relation to the capabilities of stakeholders. The following part of the chapter is used to identify the specific research techniques applied to data collection and analysis.

4.3 Research techniques

The research technique that was used for the purpose of the investigation of this case study is a qualitative research technique. This form of research is usually used for intensive investigations on a small scale. The research method includes focus groups or one-on-one interviews as well as collecting data from site visits and meeting minutes. This technique is also often used to analyse unstructured data. Qualitative research aims to understand the given topic from the view point of the subjects that

it involves. This technique is especially useful to determine very specific information and collect culturally specific data (Family Health International, n.d.: 1).

Corbin and Strauss (2015) define qualitative research as a type of research that is used to produce findings that cannot be arrived at through statistical procedures or other means of quantification. Qualitative research can entail research about people's lives, lived experiences, behaviours and emotions, as well as about organisational functioning, social movements, cultural phenomena and interactions between groups of people. Some of the background data that would be used for such a study could be gathered from quantitative, secondary sources such as census statistics and general demographic information on the subject. Qualitative data collection uses several non-mathematical processes of interpretation carried out for the purpose of discovering concepts and relationships in the raw data and thereafter arranging these into a theoretically based explanatory scheme. The data that is collected through this method can include interviews and observations, films and recorded footage and even data that have been quantified for other purposes (Corbin & Strauss, 2015: 12).

There are also many valid reasons for conducting qualitative research. Many researchers prefer this method as they are more temperamentally oriented and suited to doing this type of work, and some researchers work in a field where qualitative research is more common. Another, more important, reason is that in many cases the subject matter of the research requires this kind of methodology. Qualitative methods are used to explore substantive areas about which there is often not much known or where there is much to gain through more intensive investigation to gain knowledge of intricate details of a certain phenomenon. This level of detail is usually more difficult to extract through more statistical research methods (Corbin & Strauss, 2015: 25).

It is thus clear from this brief overview that a qualitative method of investigation will be the best suited to answer the research question, as it requires an in-depth engagement with the data to uncover the intricate details of the case. Michael Patton (1990) so aptly describes qualitative research in the following comment: "Qualitative evaluation enquiry draws on both critical and creative thinking – both science and the art of the analysis" (Patton, 1990: 168).

4.3.1 Secondary data collection

Secondary data was gathered from a number of sources which included inter alia, journal articles, books, meeting minutes, notes from different stakeholders, organisation brochures and the internet.

4.3.2 Primary data collection

Primary data was gathered from field work that took place between October 2015 and April 2017. The researcher undertook twelve visits to the informal settlement of Langrug and the In/formal South offices in Cape Town.

The researcher also had numerous informal meetings, site visits and email correspondences with representatives from WPI, representatives of the Stellenbosch municipality CORC, Habitat for Humanity South Africa, Maluti GMS consulting engineers and John Todd Ecological Design. Primary data was mainly collected using semi-structured interviews which were supplemented by field notes, meeting minutes and site observations.

4.3.3 Data collection technique: Semi-structured interviews

Semi-structured interviews were selected as the method to collect the primary data used to answer the research question. To a lesser extent meeting minutes and notes from different stakeholders were also used. The use of semi-structured interviews as a form of data collection allows the researcher to use a guide. The guide contains a list of topics and questions that must be covered during an interview. The researcher thus has some discretion as to the order of the questions. The guide also contains some probes to ensure that the correct information is covered by the interviewer. The information was collected in a conversational style and this type of interview is useful when the aim is to delve deeper into a topic to uncover underlying information (Harrell & Bradley, n.d.: 28).

These conversational interviews were conducted on a one-on-one basis between an interviewer and a specific individual. The interviews were used to collect information from the interviewees regarding their experiences, opinions or beliefs (Harrell & Bradley, n.d.: 34). The semi-structured interview method provides the interviewer with a set of instructions to ensure the provision of reliable and comparable qualitative data (Cohen and Crabtree 2006). In the case of Langrug, the interviews were preceded by numerous observations and informal conversations in order to gain sufficient knowledge of the case as well as the research topic. After the observations and the forming of the research questions, the researcher conducted in-depth interviews with respondents from both the intervening body and the community. Prior to the interview the researcher listed the key issues and questions that needed to be covered during the one-on-one interaction (Cohen and Crabtree 2006).

Within this method of data collection there is also a recognition that the researcher will always bring their own experiences, prejudice and assumptions about the research to the table, as will the respondents. The researcher also found that in some interviews the responses to the questions and the direction of the interviews were different than anticipated. It was of the utmost importance, however for the researcher to attempt to suspend their preconceived ideas and interpretations of the interview. The research required to some extent an emotional detachment from the process to ensure objectivity as well as quality data (Hale, Treharne & Kitas, 2007: 5).

During the interviews the researcher, as the interviewer, had the opportunity to add explanations, elaborate on certain points or ask for clarifications when a response was not clear. This kind of

informal interaction within the interview ensured the acquisition of quality data, and encouraged each respondent to give clear answers and elaborate on certain topics.

Thus, the use of semi-structured interviews ensured a detailed and responsive interaction between the researcher and the respondents, which facilitated a valid means of data collection that is reliable and relevant to the research question. In this way, the interview method became a platform for the interviewees to share stories and to construct a reality between the researcher and the interviewees.

The semi-structured interview method was chosen for this case study for the following reasons:

- It provided the opportunity to generate in-depth data collection.
- The use of language and personal expressions by participants was considered essential in gaining insight into their expectations and goals.
- Contextual and relational aspects were seen as significant to understanding the perceptions the respondents have of themselves and other stakeholders.
- The data generated could be analysed in different ways.

(Newton, 2010)

In the case study of Langrug, the structure of the interviews allowed for the respondents to be involved in the data collection process and share their views and expectations regarding the on-going process of planning and implementing various infrastructure and social interventions to address waste water and stormwater management in Langrug.

4.3.4 Sampling process and sample size

This study had a total of eighteen respondents that were selected as representatives of the different stakeholders in the partnership. These participants were specifically selected to ensure a proportionally accurate representation of all the parties involved. Prior to the interviews the researcher visited the Langrug settlement along with representatives from In/formal South, members of the Langrug community, UCT and the Sustainability Institute in Stellenbosch. These visits helped to guide the researcher to build informal relationships with the community leaders who formed part of the GOS partnership. These community leaders would take part in the semi-structured interviews.

Of the eighteen research participants, the researcher independently identified four of the respondents from In/formal South. Four respondents from the community leaders were also identified by the researcher with the assistance of representatives from the intermediary organisations. Two representatives from CORC, one representative from JTED, two representatives from Maluti GMS consulting engineers, one representative from WPI, two representatives from Biomimicry SA and two representatives from the municipality of Stellenbosch were also interviewed.

The eighteen research participants were drawn from the stakeholders in the GOS partnership as follows:

- Community leaders: 4
- In/formal South representatives: 4
- CORC representatives: 2
- JTED representatives: 1
- WPI representatives: 1
- Stellenbosch municipality representatives: 2
- Maluti GMS consulting engineers representatives: 2
- Biomimicry SA representatives: 2

4.4 Research question

The primary research question is:

- What lessons can be learnt about the role of the professional in partnership-based urban upgrading interventions by gaining insight from a successful partnership-based intervention?

4.4.1 Secondary research questions

The secondary research questions are:

- What mechanisms are put in place to ensure that each stakeholder contributes to the process?
- What is the role that each of the stakeholders play in the upgrading process as a whole?
- What (if any) specific processes are put in place during the upgrading process to ensure the sustainability of the intervention?

4.5 Capability analysis as an investigative tool

In order to investigate the data collected from these different sources, a capability analysis approach is used. This theoretical approach (explained in chapter two) is effective in illustrating the structure of the strategy that is used to unpack the assets available to the professional that contribute to achieving the goals of the partnership in the context of Langrug. In this specific case, the approach is used to categorise the professionals' access to assets and shows how capabilities influence the outcome of an intervention. The capability analysis approach, but more specifically the capability space developed by Frediani is utilised to illustrate the structure of the strategy used for achieving the goals of the partnership. The capability space is therefore effective as an investigative tool, which values the capabilities of professionals to shape the results of a participatory process, but also views these capabilities as a part of the capabilities of the partnership as a whole. In chapter six, the capability analysis will be discussed in more detail and used as a tool to investigate the data that was collected on the role of the professional in the GOS partnership.

4.5.1 Data analysis: unpacking the evidence

The researcher used audio recordings during all of the interviews to ensure a conversational, semi-structured interview with minimal interruptions. After each day of interviews the researcher transcribed the audio recordings within 72 hours after the interviews. This process was useful in ensuring that the information the respondents communicated was as accurate as possible. The researcher did these transcriptions as soon as possible after the interviews to ensure accuracy. The researcher listened to the audio recordings and read the transcriptions many times to get a full understanding of what and how the respondents said and how it ties in with the research question. The success of using semi-structured interviews as a method is that the opinions of the respondent can be truly reflected (Newton, 2010. 4).

“In order to understand other persons’ constructions of reality, we would do well to ask them...and to ask them in such a way that they can tell us in their terms (rather than those imposed rigidly and a priori by ourselves) and in a depth which addresses the rich context that is the substance of the meanings.”(Punch. 2001, 170)

All of the respondents as well as the researcher spoke fluently in English, thus there were no language-related issues during or after the interviews. The process of transcribing the data collected from the interviews, guided the researcher to uncover some of the thematic themes underpinning the answers and opinions of the respondents (Leech & Onwuegbuzie, 2007: 561). Following this process, the researcher selected some of the highlighted themes and ideas from the interviews as well as from the meeting minutes and compared them to the field notes in an attempt to capture a holistic and true understanding of the research material and context.

The researcher also compared the highlighted themes from each individual interview to the other interviews and meeting minutes over a period of time in an attempt to uncover commonalities and differences between the opinions of the respondents to determine the overall state of the experiences the different stakeholders have of the participatory-based urban upgrading initiative. Once these themes were identified, the researcher further investigated these themes and relationships. The following part will explain some of the methodological limitations of this form of research.

4.6 Methodological limitations

Qualitative research is at its essence an exploratory – and to some extent a subjective research method which is used to gain an understanding of underlying issues and opinions (Wyse, 2011). Due to the nature of the methodology of qualitative research, there are a few limitations to this form of research. Firstly, the research is usually limited to a smaller number of participants which means that the research is less likely to be taken seriously by other academics. Furthermore other disadvantages

of qualitative research includes; the risk of subjectivity to lead to procedural problems, the replication of the research can be difficult, research bias is unavoidable, and the research usually is labour intensive and expensive (Anon, 1998).

4.6.1 The case study method: disadvantages and limitations

Due to its exploratory nature, the case study research methodology is often viewed only as a prelude to other scientific methods of collecting data. Thus, case study methodologies can be viewed as less important research methods, which limits the trust that respondents and fellow researchers have in the credibility of the methodology (Yin, 2009: 6). Another limitation of this form of research is that data that has been collected cannot be generalised to a wider population as the nature of the data is context-specific and includes personal opinions of respondents. This leads to the result that data collected during research from different cases can potentially be useless or irrelevant. Case studies are usually conducted by one researcher that collects data through one-on-one interactions with a variety of respondents. This can lead to a bias in data collection, which can influence the results (Anon, 2012).

There are also limitations to the external validity of case study research and the researcher does not always have control over certain variables and events. The researcher will most probably not be able to duplicate the exact research in other cases unless the cases are similar. Thus, what the research gains in internal validity, it loses in external validity (Garger & Stannard Gromish, 2013). According to these limitations, the research question that is posed by this report can make no claim of being a typical study that is relevant to all other applications of a capability analysis theory to participatory-based informal settlement – or slum upgrading programmes in other cities around the world. The data that was collected cannot be claimed as general or universal and cannot represent any other regions. These limitations dictate that the findings of this research might be of little use outside of Langrug and the Municipality of Stellenbosch. However, this method is useful for generating some general concepts and adds to an existing body of research on these topics. It can be tested in other regions and cities where the sustainability of participatory-based urban upgrading interventions is questioned.

4.6.2 Challenges encountered during primary data collection

There were a few challenges during the process of collecting primary data through interviews, site visits, meeting minutes, notes and other correspondence with respondents. The key challenges during the interviews were unexpected behaviour from respondents: some respondents were not ready for interviews, did not answer phone calls or were not able to attend interviews at the last minute. Other respondents had trouble staying focused during the interview process and in most cases there was very limited time available to conduct the interviews. Due to time constraints the researcher was not always able to attend the community meetings and make use of meeting minutes in many cases. Furthermore there were delayed responses in email and telephonic correspondence with some

respondents and many site visits had to be cut short due to insufficient correspondence from respondents and other stakeholders within the partnership.

4.7 Importance of the research: addressing methodological limitations

The use of a case study methodology for this research report is important since it provides an in-depth understanding of the specific factors that play a role in the dynamics between the GOS partners and how these factors influence the role-division in the partnership. The limitations of this methodology are countered by the advantages gained in the quality of the data. The case study method can enable the researcher to gather data that would otherwise be unattainable. Thus, the researcher is able to observe a unique situation and produce a rich body of data (Cronin, 2014: 21).

4.7.1 Case study method: advantages and opportunities

The aim of a case study is not to generalise the collected data. Rather, it is to manage and simplify the specific data in a way that does not take away from the complexity or the context of the data. In the case of Langrug the aim was to gain knowledge into how the respondents experience the intervention processes and to understand how each of them interprets what they experience and how they view themselves, their capabilities and expectations for the project in relation to other participants (Atieno, 2009: 17). The advantages of the case study method are that it is flexible and it is able to capture the reality experienced by respondents and to a certain extent the reality that is created between the respondents and the researcher. These realities allow for the context of the reality to be included in the data collection process (Hodkinson & Hodkinson. 2001, 3). Another advantage of this method is that it allows for data to be collected over a longer period of time, thus allowing for longitudinal assessments of various processes that might have an effect on the context (Leech & Onwuegbuzie, 2007: 560).

Thus, the findings of this research are grounded in a realist and interpretive paradigm to make recommendations that are not generalised, but rather context specific. One of the main reasons for using this method was to ensure objectivity and validity as far as possible. To achieve this, the researcher applied two remedies to avoid biases. Firstly, the case study used different sources of data. This was done by asking similar questions to representatives of different organisations and stakeholders within the partnership. This was done in an attempt to counter any biases that the respondents or the researcher might have.

Secondly, the data was assessed against some of the existing theories on the research theme that was investigated in the literature review of this research report (Yin, 2003: 25). In the case of Langrug, this research methodology allowed the researcher to objectively analyse the extent of the perceived responsibilities of the stakeholders as well as the contextual matters that might influence them. The case of Langrug is used as a study to investigate the role of the professional in terms of the expansion

of collective – and individual capabilities in the specific environment to promote sustainable solutions (Fernandes Cerqueira Nunes, 2015. 9).

"People have to be seen as being actively involved – given the opportunity – in shaping their own destiny, and not just as passive recipients of the fruits of cunning development programs." (Sen, 1999. 53)

The researcher also compiled more information and sources of evidence to support the inquiry into the underlying themes and patterns in the partnership. Thus, the semi-structured interviews and additional data proves that the value of a case study research methodology does not lie in the generalisation of different contexts or experiences. It rather lies in uncovering the principles that make the specific research phenomenon unique.

4.7.2 Ethical considerations and remedies to challenges during the interview process

During the interviews the researcher ensured that ethical issues such as confidentiality were respected. The researcher also ensured that before an interview was conducted, the respondent understood that there was no obligation to take part in the interview and that the interview could be stopped at any time. This was done so that the respondent was able to make an informed decision before releasing any information that may be damaging. The researcher also made it clear that if the respondent agrees to the interview, that it would be recorded and used as part of this research report. The respondent's consent to participate in the interview was also recorded (Kajornboon, 2006: 74).

In order to avoid potential harm to a respondent or any other partner of the intervention, all respondents are presented anonymously. Furthermore, material incentive and reciprocity behaviour was avoided during the interviews to ensure objectivity from both the researcher and the respondent. Finally, this research report will also be made available to the community of Langrug, In/formal South, WPI, CORC, BiomimicrySA, Habitat for Humanity South Africa, John Todd Ecological Design, Maluti GMS consulting engineers, the Municipality of Stellenbosch, the Western Cape Government and any other interested or relevant parties not listed here.

4.8 Conclusion

This chapter was used to explain the chosen methodology of the research. It discussed the characteristics of a case study methodology and demonstrated its applicability to the case of Langrug. Furthermore this chapter outlined the different sources used in the collection of data and investigated the methods used in analysing this data. It also addressed the limitations of a case study methodology and offered remedies to address the limitations. The advantages of this methodology in

interrogating the research question and secondary questions were also highlighted. Having presented the research methodology, the following chapter will provide the research findings.

CHAPTER FIVE: RESEARCH FINDINGS

5.0 Overview

This chapter will present the research findings of an investigation of the Langrug informal settlement and the partnership-based urban upgrading intervention it is undergoing. The aim is to use the data to answer the main research question: what lessons can be learnt about the role of the professional in partnership-based urban upgrading interventions by gaining insight from a successful partnership-based intervention? In this chapter the research findings will be used to answer this primary as well as the secondary research questions that were presented in chapter four. The chapter will present data that was collected from field research and interviews between October 2015 and April 2017. The chapter is divided into seven parts.

The first part will explain the context of Langrug and the background to the GOS partnership. The second, third and fourth parts will present the research findings in terms of the secondary research questions that were posed in the previous chapter. Each of the questions will be discussed as a subsection of part two, three and four. These three questions are: Firstly, what mechanisms are put in place to ensure that each stakeholder contributes to the process? Secondly, what is the role that each of the stakeholders play in the upgrading process as a whole? And thirdly, what (if any) specific processes are put in place during the upgrading process to ensure the sustainability of the intervention?

Part five will then be used to explain the achievements of the professional within partnership, and part six will highlight the obstacles that have been identified in relation to the primary research question with supporting evidence from the discussion of the secondary research questions. The seventh and final part of this chapter will draw some general conclusions based on the findings and present the findings in terms of the primary research question. Throughout this chapter, quotes from interviews and excerpts from meeting minutes will be used to illustrate and explain research statements and findings. The following part will explain the context of Langrug and the need for the partnership-based intervention.

5.1 The case of Langrug: contextual background

Langrug is situated on the steep mountain slopes to the west of the picturesque town, Franschhoek. The settlement was established in 1992 by seasonal labourers working either on the surrounding wine farms or on large construction projects in the area. In 2010 the residents of Langrug, with the assistance of the Stellenbosch Local Municipality and several other partners attempted to secure funding from the National Upgrading Support Programme (NUSP) for the first phase of the Upgrading of Informal Settlements Programme (UISP).

The UISP subsidy instrument contained in the South African National Housing Code and specifically designed to cater for the special development requirements of informal settlements. However, the application for UISP funding that was submitted to the Western Cape Department of Human Settlements (WCDoHS) was withdrawn as the total household figure in the application was deemed inaccurate. The residents of Langrug, however, still do not have access to the formalised infrastructural systems such as household water supply and proper sanitation and therefore suffer major health risks. The water is polluted by human waste, detergents and bacteria. These contaminations lead to the pollution of nearby rivers used for commercial irrigation.

This is very dangerous to the health of the greater area and to the residents who come into contact with the contaminated water. Several upgrading initiatives were launched in the settlement since 2010, however none of these interventions (ranging from re-blocking, road infrastructure, and construction of community facilities) was able to successfully solve the issue of greywater runoff into nearby farms. This particular informal settlement has thus been the topic of many academic discussions and has been a project of many different organisations from different sectors, in partnership with the Stellenbosch Municipality since 2010 (SDI South African Alliance, 2012). Despite the many successes, several interventions ultimately failed to be sustainable and in 2013 the GOS partnership was appointed to develop solutions to the pollution in the Berg River due to wastewater originating from the Langrug informal settlement (In/formal South, 2014).



Figure 5.1 The WaSH facility in Langrug, courtesy: Habitat for Humanity SA, 2017



Figure 5.2 A view of an open stormwater channel in Langrug, courtesy: GOS, 2015

5.1.1 The Genius of SPACE project scope

In 2013, the 'Genius of PLACE' (GOP) partnership was formed to design a technology for improving the quality of water in the Berg River area. The aim of the project is to remove stormwater from the Langrug informal settlement and treat the water in a low-tech way by using plants and animals from the local area. The project is also part of the Western Cape Government's Berg River Improvement Plan (BRIP).

The GOP project was piloted by Biomimicry SA in collaboration with In/formal South, John Todd Ecological Design (JTED), the Stellenbosch local municipality as well as members of the Langrug Community leadership (Anon, 2015)b and the partnership forms part of the ‘Western Cape 110% Green’ platform. The Western Cape Government’s Department of Environmental Affairs and Development Planning (DEADP) appointed this partnership. However, in 2015 the Genius of Place (GOP) project was combined with another project in the area, the Berg River Bioremediation project, and the Genius of SPACE (Systems for People’s Access to a Clean Environment) project was established. The project is currently led by DEADP in partnership with the Department of Economic Development and Tourism (DEDAT). Stellenbosch Municipality has also been an active partner throughout the development of the project (Genius of SPACE, 2016).

The GOS project was divided into three consecutive phases. Phase 1 involved a feasibility study conducted in conjunction with the Berg River Improvement Plan (BRIP) Task Team and was used to determine whether biomimicry could offer a solution to some of the challenges faced in the Berg River. The second phase consisted of deeper research into storm water drainage, sewerage and solid waste in Langrug itself. The Phase 2 report then provided recommendations on the appropriate solutions for testing during Phase 3. The partnership set out to develop a set of prototypes to address the issues regarding stormwater and greywater pollution: one of the first prototypes included the installation of greywater catchment points that lead to tree pits that filter water and turn organic matter into soil. This was developed as an extension and partial formalisation of an existing bucket system that was already used by the community as a way to remove greywater from their homes. The prototype involves lining tree pits with rubble and carbon; which are connected to greywater disposal points. (Biomimicry Institute, 2015a).

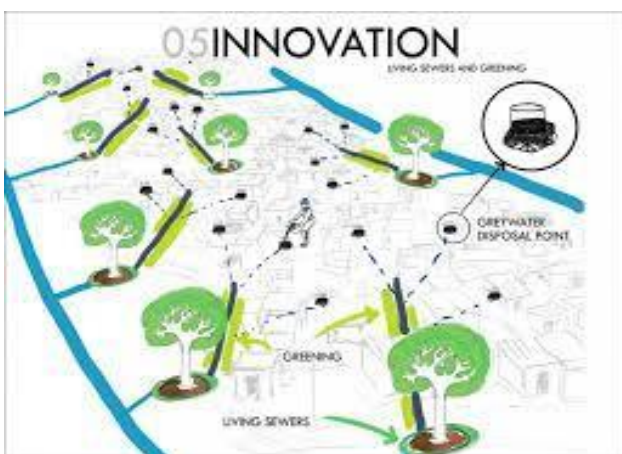


Figure 5.3 A poster illustrating the innovative greywater management system, courtesy: GOS, 2016



Figure 5.4 An example of a co-created greywater disposal unit developed by GOS, courtesy: GOS, 2016



Figure 5.5 The community of Langrug planting trees in catchment pits connected to greywater disposal pits, courtesy: GOS, 2016



Figure 5.6 The community of Langrug planting trees in catchment pits connected to greywater disposal pits, courtesy: GOS, 2016



Figure 5.7 The community of Langrug digging trenches for pipework in connecting to greywater disposal pits, courtesy: GOS, 2016



Figure 5.8 Trees planted in catchment pits connected to greywater disposal pits, courtesy: GOS, 2016

Following this prototype, phase 2 of the intervention is to develop an 'Eco-Machine' (waste water treatment system) downstream of the settlement to ensure the surface runoff does not enter the Berg River. This system mimics natural processes to clean the contaminated water and relies on gravity to move water downhill into the treatment plant (Biomimicry Institute, 2015a). Phase 3 aims to put in place an innovative and integrated solution to water pollution in the whole of the Berg River area. The pilot 'Eco-Machine' will separate grey water from storm water to prevent pollution to the Berg River, mitigate the health and odour issues of the current greywater system and improve the soils and initiate greening in the Langrug community. The proposed outcome of this project as a whole is the development of a new, more efficient and affordable technology that could have a significant impact on addressing the challenge of dealing with greywater and solid waste in informal settlements (Department of Economic Development and Tourism, n.d.).

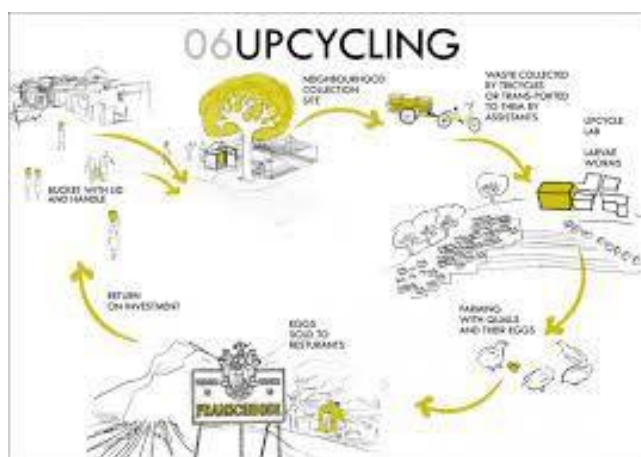


Figure 5.9 A poster illustrating the innovative greywater management system, courtesy: GOS, 2016



Figure 5.10 A poster illustrating the long term results of the GOS intervention, courtesy: GOS, 2016

The first two phases of the project were characterised by several community meetings, engagements with existing leadership structures in the community and pilot testing alongside community members (Genius of SPACE, 2016). A specific water and waste committee was also established consisting of Langrug community members to ensure the ownership and proper management of the proposed prototypes. Currently, and after many debates, planning processes and meetings, the construction of phase 2 of this intervention is underway. The current state of the project offers a context for a measureable case study to be conducted in line with the research theme: an investigation of the responsibilities of the professional in a partnership-based upgrading intervention. The role of the professional is investigated in conjunction with an analysis of the role divisions in the planning and implementation phase of the GOS intervention.

Throughout the process the GOS partnership worked alongside several other organisations such as CORC and SDI, who were present in the area prior to GOS, to gain entry points to the Langrug community and work with the community on solutions right from the start (Interview, In/formal South representative 1, 2015). The approach of the GOS partnership has been one of collaboration and community-based problem solving from the very start. The quote below from an interview with a project coordinator from JTED explains the partnership’s approach to the intervention:

"The community has been an integral part of how the design came together. ‘We’ve heard right from them what will work for them, what they want and what they don’t want and what they need in the community’"

(JTED project coordinator, 2015).

The next three parts of this chapter will present the research findings and unpack the activities of the GOS partnership in terms of the secondary research questions that were initially presented in chapter four. Firstly, findings regarding the question of the mechanisms put in place to ensure the contribution of each of the role players will be presented.

5.2 Mechanisms used to ensure the participation and contribution of each role-player

This part of the chapter will draw on the data collected from site observations, interviews and meeting minutes during the time the researcher spent in Langrug. Five key findings with regards to the mechanisms that were used to facilitate the participation and contribution of all stakeholders will be discussed in detail and supported with quotes from the various primary data sources.

5.2.1 The unique structure of the GOS

From the findings it is clear that the GOS partnership has a unique structure, due to the inclusion of the community, intermediaries, government and professionals in one partnership. In this subsection different scenarios from the GOS partnership will be described as they occurred. From these scenarios, the specific partnership 'mechanisms' that ensure the effective participation of all stakeholders will be highlighted. This part of the research makes use of meeting minutes, observations and excerpts from interviews with different stakeholders to presenting findings.

A community meeting was held on the 22nd of September 2015. By the time this meeting was held, the designs for phase two of the project, that were proposed by JTED and developed by the partnership (in which the community played a key role), were in the process of being approved by the Municipality. A representative from the Municipality attended a partnership meeting to clarify the process and explain the reason for signing a MoC. It was recognised by all the members of the partnership that communication between stakeholders is crucial and that everyone should feel supported throughout the process, and that no one wants the intervention to result in a process fractured by political and other infighting – everyone involved should aim for a 'ground-up community of genius' (Genius of SPACE meeting minutes, 22 September, 2015a).

5.2.2 The GOS partnership and the MoC agreement

The GOS partnership was then established between different stakeholders and a general Memorandum of Co-operation (MoC) was signed between the Municipality of Stellenbosch and the Western Cape DEADP. The GOS project was specified as an addendum to the MoC. This MoC stipulates how the participants will work together and explains the roles and responsibilities of the parties involved. A process manager at In/formal South stated on more than one occasion that the most important way of communicating the process and to get the inputs from all the stakeholders is firstly to have community meetings, where anyone is welcome. Later on, (if required) there would be more focussed meetings with specific members.

5.2.3 The development of clear leadership structures

The GOS developed the structure of the partnership to have three 'bosses'. This was also communicated during the meeting of the 29th of September 2015 and during this meeting the

leadership structures of the intervention were clarified and agreed upon by all. Below is an excerpt from the 29 September 2015 Meeting Minutes explaining the three ‘bosses’:

“GOS has 3 bosses:

- The first boss is the community – the community needs the team to dispose of greywater and manage storm water
- The second boss is the client – the Western Cape Government
- The third boss is the municipality – we need the municipality to be happy with the work that gets done so that they will support the project”

(Genius of SPACE meeting minutes, 29 September, 2015b)

5.2.4 The establishment of a communal meeting space

All of the community meetings and interviews were conducted at a central venue in Langrug known as Batho's Place. This restaurant was established by two residents of the settlement in 2011. This venue also serves as a soup kitchen and crèche (Verberg, 2016).

A representative from In/Formal South explained that for the success of the partnership, it is of the utmost importance for the external role players to meet the community in a space that is neutral and accessible to all – Batho's Place serves this purpose (Interview with In/formal South representative 1, 2015).



Figure 5.11 Entrance to Batho's Place, Langrug courtesy: Verberg, 2016



Figure 5.12 Batho's Place, courtesy: Verberg, 2016

5.2.5 The establishment of the Project Steering Forum

Soon after the establishment of the GOS partnership, the stakeholders agreed that a GOS Project Steering Forum should be established, and that the forum should be made up of representatives from block committees in Langrug, the internal project team, members from the Langrug leadership and

relevant ward committee members (Genius of SPACE, 29 September, 2015b). This decision was made in an attempt to create an inclusive platform for decision-making processes in terms of the planning and implementation of the intervention. The comments below are excerpts from interviews the researcher conducted with two Langrug community leadership representatives and it further explains the leadership structures of the community and the partnership. The first excerpt explains the value of the Project Steering Forum that was set up by the partnership, and highlights the value of such forums to a community in general:

"There is a forum, that sits together twice a month and they look only at the issues and plans around the Biomimicry project. But maybe, when we get another project they will be able to look after the development of this project as well."

(Interview with a community leadership representative, 2016)

The second excerpt expands on the value of the Project Steering Forum in taking final decisions and explains the make-up of the forum as consisting of a variety of different stakeholders. The excerpt also highlights the value of continuous communication between the forum and the rest of the community and the partnership:

"We need a top structure to be able to make final decisions, they are made up of people from ward committees, councillors and people from block committees....So these representatives will go back and report to their committees what the decisions of the top leadership is. So everyone is informed."

(Interview with a community leadership representative, 2016)

The establishment of the Project Steering Forum was also effective in ensuring that all stakeholders are mutually accountable. The forum was established during the planning process, to address issues and manage the intervention process. The forum is made up of 60% internal members and 40% external members.

The internal members are represented by:

- Two ISN representatives
- Two ward committee representatives
- Two block committee leaders
- Two ordinary residents
- Two local community leaders

The external members are represented by:

- One In/formal South representative
- One representative from Maluti GMS consulting engineers

- One representative from CORC (Interview, In/formal South representative 1, 2016)

5.3 The roles of the different role-players in the GOS partnership

This part of chapter five discusses the second research question and also draws on data collected from site observations, interviews and meeting minutes. Three key observations, with regards to the role that each of the stakeholders play in the upgrading process, will be discussed and supported with quotes from the different primary data sources.

5.3.1 The stakeholders in the GOS partnership

In this subsection the GOS partnership will be briefly unpacked to gain a deeper understanding of the particular stakeholders and their responsibilities, to highlight the stakeholders supplying technical support. The following stakeholders form part of the official GOS partnership:

- **Biomimicry SA** – is the regional network of The Biomimicry Institute. The network promotes the study and imitation of nature and brings together scientists, engineers, architects and innovators who can use the models presented in nature to develop innovative technologies. In the GOS partnership, Biomimicry SA acts as the convenor and manager of the partnership.
- **John Todd Ecological Design (JTED)** – contributes to the GOS partnership by providing technical expertise regarding the design of the biomimicry-based interventions in Langrug.
- **In/formal South** (more recently known as Actuality) – works closely alongside Biomimicry SA as well as with the community leadership and navigates between the multiple stakeholders to create strategic frameworks and resolves conflict through intensive stakeholder management. In/formal South also acts as the project managers of the intervention.
- **Western Cape Department of Environmental Affairs and Development Planning (DEADP)** – contracted the GOS team to address the issues of stormwater drainage and greywater management in Langrug. The role of the DEADP is to act as an enabler of the GOS team.
- **Stellenbosch Municipality** – is the local authority and has jurisdiction over the GOS team. The municipality however need to form part of the team to ensure that due process is followed and to enforce planning guidelines as stipulated in relevant policies.
- **Langrug Community Leadership** – is selected by the community to represent the needs of the community members and to ensure that the solutions that are proposed are achievable, inclusive and responsive to needs.
- **CORC** – has been involved in the community of Langrug since 2010. The intermediary organisation was instrumental in partnering with the community to set up leadership structures and mobilise and organise community members.
- **Maluti GMS Consulting Engineers** – provides a professional service to the team by contributing independent expertise in engineering, science and related areas to the whole GOS team.

(Interview with In/formal South representative 1, 2016)

5.3.2 Additional resources and collaboration with other stakeholders

In addition to the established GOS partnership, there were also other parties who worked alongside the partnership, and although the focus of this investigation is on the role of the professional within the partnership, the efforts of CORC and SDI informed much of the processes. As explained in previous chapters, there was a MoU preceding the MoC of 2015, and the GOS partnership was able to build upon the work of this MoU.

Furthermore, CORC facilitated an enumeration project which included survey questions that were developed from an amalgamation of surveys done by the City of Cape Town and ISN. The questionnaire covered topics of personal identity, employment status, household details, migration history and health aspects (Stellenbosch Municipality, 2011: 5). The settlement of Langrug was also divided into three main zones (Zwelitsha, Mandela Park and Nkanini), these were subsequently divided into nineteen smaller areas and each of these were assigned a letter from A to T (Stellenbosch Municipality, 2011: 6). The GOS partnership was able to access this information by collaborating with CORC and SDI. It was important to recognise existing social and physical structures that were already in place in Langrug (as existing assets) before any new processes could be introduced.



Figure 5.13 Wards of Langrug courtesy, Stellenbosch Municipality. 2011, 6



Figure 5.14 Blocks of Langrug courtesy, Stellenbosch Municipality. 2011, 7

CORC and ISN also conducted a skills mapping exercise with the community prior to the GOS intervention, which proved to be an effective and valuable resource for the GOS partnership. The efforts made by this coalition of intermediaries has also proven to be very useful to the GOS

partnership. The further inclusion of an in-between agent in the partnership was also discussed and it was determined that a representative from CORC, who has an established relationship with the community in Langrug would be best suited to facilitate initial communication between the community and the professionals where necessary (Genius of SPACE, 29 September 2015b).

From these notes, it is clear that the resources and capabilities of the partnership as a whole is not unlimited and that existing information and resources should be utilised to facilitate the required results. It is therefore important for professionals to also understand the scope of their own capabilities in relation to the capabilities of other stakeholders. The GOS partnership has proven to be effective and sustainable. The success can be ascribed to the clear role divisions between different stakeholders and the involvement of several different stakeholders, including those outside of the established partnership.

5.3.3 The division of labour structures and stakeholder management

On the 6th of October 2015, a community meeting was held at Batho's Place. This meeting was intensively focused on the finalisation of the sites for the greywater disposal prototypes in Blocks S and T. There were 15 community members and 9 project team members present (Genius of SPACE, 6 October 2015c).

The proceedings of the meeting included focus groups between different stakeholders discussing the expected outcomes of the meeting as well as the outcomes of previous meetings. The rest of the meeting comprised of a brief on a walkabout in Blocks S and T to determine the placement of the prototypes in these areas (Genius of SPACE, 6 October 2015c).



Figure 5.15 The GOS team and community members co-planning the drainage system layout, courtesy: GOS, 2016



Figure 5.16 Community members constructing a tree pit in Block S in Langrug, courtesy: GOS, 2016

At the community meeting on the 20th of October 2015, a five hour workshop was presented by the professional stakeholders (JTED, Biomimicry SA and Maluti GMS consulting engineers) on the labour and construction models of the intervention. A representative from In/formal South facilitated the workshop and emphasised the importance of the block committees and other leadership structures of the community (Genius of SPACE, 8 October, 2015). The representatives of the professional teams were successful in engaging with community members and explaining that the functioning of the intervention does not depend on who participates, it rather depends on how the participants communicate with each other and work together.

This is achieved by having a clear goal description. During this workshop a division was made to further distinguish between different stakeholders. The division created two categories: 'outside Langrug' and 'inside Langrug'.

Outside Langrug:

Western Cape Province, GOS design team (JTED, Maluti GMS consulting engineers, Biomimicry SA, In/formal South), ISN, CORC, and the Stellenbosch Municipality for 3 years.

Inside Langrug:

GOS Task Team comprising of the committee around water, committee around solid waste, social work and block committees.

(Genius of SPACE meeting minutes, 8 October 2015)

This process helped to develop a method for understanding the spheres of influence and responsibility of these two groups. The construction process was also planned in terms of these role-divisions. The 'inside Langrug' category was also divided into smaller labour teams to address the different parts of the construction process:

- **Team – disposal points:** where to dispose the grey water. This included digging, pipework, back filling and final cleaning and finishing work.
- **Team – trees:** Dig bigger holes for the trees to be planted.
- **Team – pipes:** to connect – specific pipes need to be used to install stormwater pipes and disposal points. This includes the work of several experts as well.
- **Team – storm water construction:** This includes the use of machines and a small bobcat to shape the road, do earth works, laying sand, etc., to re-grade the road.
- **Team – laying rocks and paving:** This includes the laying of rocks and bricks to create secure surfaces around the tree pits.

(Genius of SPACE meeting minutes, 8 October 2015).

Construction teams (consisting of outside-Langrug stakeholders) worked closely with labour teams (consisting of inside-Langrug stakeholders). The construction teams were responsible for material ordering and quality management.

These different teams worked in close partnership to ensure that prototypes of phase 1 were built according to the co-created designs (Genius of SPACE, 8 October 2015). The result of the division and sub-division of the work and construction processes is that the specific role of each team was clear. This would speed up the construction process and ensure a greater sense of responsibility within each team and an understanding of how each stakeholder's contribution serves the goal of a successful construction process. The excerpt below from an interview conducted with a community leader shows the value and importance of clear role divisions and communication:

"We divided up the leadership into different groups so that each one has a responsibility. So, for example I am the secretary and I also look out for the social issues here in Langrug."

(Interview with a community leadership representative, 2016)

From these scenarios and the notes from selected meetings it can be concluded that the importance of clear role division and understandable and attainable goal setting is understood by the professional stakeholders in the GOS partnership. Once the different responsibilities were established by understanding the role-divisions between the participants, the expectations that one stakeholder has of the other becomes more important.

5.4 Specific processes put in place to ensure the sustainability of the intervention

The discussion of the final secondary question also draws on data collected from site observations, interviews and meeting minutes. The findings that are discussed show some of the specific and intentional processes that were put in place to ensure the sustainability of the intervention.

5.4.1 The holistic management of expectations

The data that was gathered from the various primary sources indicated that the GOS partnership is acutely aware of the need for an integrated and holistic approach to upgrading. This approach has been effective in managing the expectations of the different stakeholders and highlighting the importance of working together towards achieving a shared goal which will inevitably have an impact on the sustainability of the intervention. The quotes below show some of the measures that the partnership took to manage expectations and to ensure the achievement of holistic goals.

On September 22, 2015 a community meeting was held at Batho's Place and was attended by representatives from the Stellenbosch Municipality, CORC, members from the Langrug Community Leadership as well as approximately 20 community members, Maluti GMS consulting engineers, Biomimicry SA and JTED. In/formal South facilitated the meeting and shared information regarding workshops on the governance of the project. Some of the points that would be addressed by the workshops were:

- To give the community a platform to participate in the planning processes, and give a good indication of what the short term goals are and what the timelines are for achieving this.
- To give the community a clear explanation of how the budget is allocated and how remuneration for work would be calculated.
- To establish a structure within the partnership to allow for a clear allocation of responsibilities.
- To eventually set up a sub-committee from within the partnership that would be responsible for this specific project only.

(Genius of SPACE, 22 September 2015a)

In/formal South acts as the stakeholder-manager of the partnership. Their representative at partnership engagements is responsible for the overall management of the partnership dynamics, discussing the structure and planning for the upcoming community meetings, which is an important aspect of transparent interventions and clear communication.

However at the 22 September meeting in 2015, the community members were still frustrated with the process and the In/formal South representatives perceived a lack of involvement with the outcomes of the intervention. Below is a quote from a frustrated community leader taken from the minutes of the GOS meeting held on the 22nd of September 2015:

“We make people aware of the project and then there is so much waiting and it seems as if we are lying.”

(Genius of SPACE meeting minutes, 22 September 2015a)

In response to this comment by the community leader which highlighted the feeling of frustration that the community experiences when intervention processes do not go according to plan, a representative from the professional stakeholders echoed the community’s frustration and assured them that the intervention is continuing as planned:

“The timelines are in place. We have signed off. It is happening. Sorry so late.”

(Genius of SPACE meeting minutes, 22 September 2015a)

Later in the meeting minutes, the same community leader responded to this comment by acknowledging the mutual frustration with processes. This conversation highlights the importance of communication for different stakeholders and that all parties have equal opportunities to voice comments and concerns regarding the process. A Western Cape Government representative commented:

“I appreciate this time. I have also been frustrated. We want something in the ground. We appreciate all of your time.”

(Genius of SPACE meeting minutes, 22 September 2015a)

From these meeting minutes it can be determined that the participating stakeholders have the same goals and general expectations for the intervention. Furthermore it seems that they are aware of their own expectations for involvement within the partnership in terms of the planning of the intervention.

5.5 Achievements within the intervention: introducing solutions

Throughout the process of semi-structured interviews and site visits, the researcher identified several substantial achievements that were reached through the partnership and through new initiatives. This part of chapter five will highlight some of the main achievements in terms of the effect that it could have on the long-term success of the intervention. The three key achievements are the role of the professional, strategy developments, and the innovative ways that some issues were dealt with.

5.5.1 The co-identification of core issues

Over the last few years, since the inception of the project, there have been various developments and changes to the management structure of the community as well as the physical infrastructure of the informal settlement. The aim of the whole of the partnership is of course to achieve a successful intervention and to improve the current situation and change the status quo. Throughout the field research, site visits and semi-structured interviews, it was clear that establishing a foundation of trust between partners would be very important. It was also important to identify the correct core issues, establish that all parties agree on the issues and thereafter establish a strategy.

One of the previously agreed upon goals was to initiate an intervention that would serve a holistic purpose and aim to introduce processes that would address the multiple causes of the pollution of the water in the Berg River and the informal settlement.

Therefore, professionals as well as the rest of the stakeholders all aimed to develop a process that could be self-sufficient to some extent as well as deal with a variety of issues. The quotations below from different stakeholders illustrate some of the core issues that were encountered during the intervention process. The first is an excerpt from an interview with an engineer from Maluti GMS, which illustrates the skills that the technical professionals gained from working alongside other stakeholders:

"We have learned to observe what goes on around us and how the community does things – the leaders usually start the meeting in a certain way and ends in a certain way....we tend to come in with our intentions for the meeting and most of the time end up dealing with something a bit different or even just in a different way."

(Interview with a Maluti GMS consulting engineers representative, 2017)

In addition, a researcher from Biomimicry SA pointed out in a separate interview that the solution to the problems in Langrug could not be solved in isolation. Instead the partnership needed to look at the settlement as a whole to uncover the core causes of the issues and not just address symptomatic problems:

"You can't deal with water issues in informal settlements without dealing with solid waste. So we developed a solution around how to deal with solid waste. We looked at upcycling, as a way to create more value, as opposed to recycling that creates less and less value. We wanted to know how we could create large amounts of value from waste."

(Interview with a Biomimicry SA representative, 2016)

"The idea is that this is a pilot projects in Blocks S and T. If this experiment thus proves to be successful, more and more blocks in Langrug could be added to the systems which would be all eventually linked to this water treatment systems and the biomimicry tanks and the upcycle lab at the edge of the settlement."

(Interview with an In/formal South representative, 2015)

5.5.2 Cultivating a common understanding of the importance of social processes

What quickly became clear through the interactions with the partnership is that one of the most important aspects of a partnership-based urban upgrading intervention is the social processes. These processes need to be very well understood, managed and developed to be able to achieve any progress in terms of the physical infrastructure.

Through this research process it is clear that the GOS partnership is aware of this important aspect and does make efforts to address the promotion and development of the capacity of the stakeholders involved in the planning and implementation phases of the intervention. The partnership developed several workshops in collaboration with community leaders. This ensured that any new concepts or processes that were introduced to the community would be explained and implemented with the use of a workshop.

The following quotations have been extracted from interviews with various stakeholders to illustrate the need to focus on social structures. The first excerpt is taken from an interview with the program officer from In/formal South. This quote shows the understanding that this stakeholder has with regards to the importance of intensive and deliberate social processes in conjunction with the implementation of the physical intervention, as these processes encourages a sense of ownership and can contribute to the sustainability of this intervention:

"This project is not only about the infrastructure. There are massive social processes: capacity building, organising a leadership forum and structuring the community into a solid waste committee and a waste water committee, with the aim that they would be able to take full ownership. There also needs to be a lot of training and education done around this and the community should in some way be assisted to develop and build their own infrastructure."

(Interview with an In/formal South representative, 2017)

This next excerpt from an interview conducted with an engineer from Maluti GMS also highlights the technical professional's understanding of the value of social processes. This is important, because a lack of understanding could be very unproductive to a partnership such as GOS:

"Infrastructure delivered without social and cultural understanding fails, because you don't understand the governance structure and the capabilities within that governance structures."

(Interview with a Maluti GMS consulting engineering representative, 2016)

To strengthen this finding, an excerpt from an interview with a community development specialist from CORC highlights the importance of a shared vision for the partnership:

"Other successes have been in convincing engineers to commit to innovative processes and to convince municipalities to also buy into these innovative and new ideas. Also, developing management models and negotiating between the different parties has been successes."

(Interview with a CORC representative, 2017)

To this point, it is also important to note that the form of these social processes can be quite different from one partnership-based intervention to the next. In the case of this partnership it was agreed upon that it is important to pay community leaders for, not only their participation, but for their time and expertise in this process. This in turn incurs certain responsibilities from the community leaders towards the greater community that they represent in the partnership. The following excerpt from an interview with a researcher from Biomimicry SA confirms this comment:

"In most of these interventions, the contractors and labourers are only paid for the physical work done. But we are serious about establishing a payment scale for various social work done before and during the project - it is important to recognise the value of the time and expertise that people bring to the meetings and workshops and this needs to be rewarded."

(Interview with an In/formal South representative, 2017)

5.5.3 The establishment of a culture of equal participation

As mentioned previously, the GOS partnership and their collective interventions are unique due to the fact that participants and leaders were paid for their time and expertise. The partnership has made it clear that it is important to establish a culture of equal participation – whereby all participants from all sectors are reimbursed for their efforts. The following quotations from interviews conducted with the intervening body illustrate some of the successes experienced during the participation:

"I think this process has been successful in listening to the voices of the community and in making the community the decision-makers of their own processes. The processes have also now been benchmarked by the municipality as the new benchmark for participatory processes."

(Interview with an In/formal South representative, 2016)

The agreement to pay community participants for their time and expertise also shows the vision of the partnership to not only contribute a physical intervention, but rather seek to invest in the community on a larger scale. The excerpt below quoted from an interview with a specialist from JTED highlights this notion:

"We were also looking at how we could create economic opportunities from infrastructure."

(Interview with a JTED representative, 2016)

In an interview with a program officer from In/formal South, this notion was further strengthened. The following excerpt from the interview shows to what extent the partnership is serious in taking a thoroughly integrated approach to addressing the identified issues in Langrug:

"One of the things that we started is to request that all visiting groups that come Langrug would pay a honorarium and that most of the money would then be donated to a community savings account and the rest would be used to cover operational costs and to pay community leaders who participate for their time and expertise. It is mainly an ownership thing."

(Interview with an In/formal South representative, 2015)

This form of investment in the expertise of the community and its infrastructure could be further developed as a model for the establishment of small-business enterprises in Langrug. This type of development could also be useful as an incentive to manage, maintain and develop the planned interventions (in Blocks S and T) that were discussed earlier in this chapter. However as with any realistic partnership-based intervention there are some shortcomings. The next part of the chapter looks more closely at the semi-structured interviews as a guide to highlight some of the shortcomings that were encountered during phase 1 and phase 2 of the intervention.

5.6 The professional within the partnership: overcoming shortcomings

Again, this research report aims to investigate the factors relating to the role of the professional in the partnership that might influence the intervention. This includes an analysis of the achievements as well as the shortcomings. The research report recognises that this intervention is, in many respects, still in a pilot phase and it is investigated as such. The literature review has shown that poorly communicated expectations of capabilities can cause additional obstacles which can negatively impact the development and sustainability of an intervention. Thus, this part of chapter five will briefly highlight the main shortcomings that were observed during the semi-structured interviews and site visits in terms of the effect it can have on the sustainability of the intervention.

5.6.1 The consequences of ineffective communication between role-players

During 2015, the 'outside Langrug' stakeholders suggested to the community the development of a prototype for treating greywater on a household level with the greywater disposal points that were each connected to a biofilter. These prototypes were planned to form part of an intricate network of disposal points and biofilters that all lead to a central point – the bioremediation tanks and a Biomimicry wetland. The following quotes explain the prototype ideas and its reception by the community.

"We developed a prototype idea - we call it guerrilla gardening or rapid prototyping. We aim to learn quickly and move on. What happened was that a company from Stellenbosch sponsored some trees and the engineers on the project developed a prototype where the trees would function as biofilters: each tree is connected with an underground pipe to a greywater disposal point. These disposal points and the points where the trees would be planted was staked out by the engineers and the community. This is done to try and separate the domestic water coming from the home from the stormwater."

(Interview with a JTED representative, 2015)

"The trees will be connected, with more greywater piping, to a larger wetlands. The aim is to develop an infrastructure that could be regenerative and self-sustained to the extent where the municipality can be convinced that the structures can support the maintenance."

(Interview with an In/formal South representative, 2015)

"I don't believe in presentations only, I need to see that it is working in the ground. So with this project I have seen the pipes and I have seen that it works."

(Interview with a community leadership representative, 2016)

5.6.2 The consequences of inadequately implemented role-divisions

The ideal outcome of the intervention is that the community will be able to take full ownership of the projects. However, there seemed to be a lack of process for the 'outside Langrug' stakeholders to know when or how to step back, and when or how the community should take the lead. Some of the first prototypes were unsuccessful in terms of design and internal functioning; however, they were successful in terms of sustainability. The flaws were caused by a lack of sufficient management and understanding regarding the responsibilities of each stakeholder.

The following excerpt from an interview with an engineer from Maluti GMS illustrates some of the obstacles that were encountered during the initial usage of the prototype:

"What happened with one of these biofilter/guerrilla gardening prototypes was that there was a man that was living right next to the tree where the water is being filtered to, was asked to monitor this tree. But there was no formal discussion around this or any form of payment agreed upon. The man also does not speak English and was only able to liaise with the community leaders, who in turn could only report to us or to the engineers that something was wrong or that the pipe was blocked. The constraint was then again that the people had to wait for the engineers to be able to get to the settlement to look at the pipes. This was frustrating because this man was not empowered to communicate directly with the design team on the issue or to solve the issue when it would arise. There was a delay in response and the residents did not have the tools or the skills to fix the problem."

(Interview with a Maluti GMS consulting engineers representative, 2015)

In the case of the piloted bio-filter project, many efforts were made in terms of participation during the planning and implementation phases of the prototyping. All stakeholders within the partnership seemed to understand the process and its importance. However, information around maintenance and management was not made available timeously to all members of the community, and most importantly those who would be responsible for the management thereof. The nature of this intervention seems to require an intricate management plan between different stakeholders. Thus, in order for the prototypes and the proposed network of systems to be successful and ultimately sustainable, such a management plan needed to be introduced.

5.6.3 The consequences of inadequate ownership and management processes

Another officer from In/formal South commented on the fact that during the course of the intervention and the piloting of the projects, there were some community members that did not fully engage with the process. This created some difficulty, and highlighted the need for continuous compromise between the different approaches of the various stakeholders:

"The other people in the area were also not formally informed about what the trees are and why they are there. However there has been some social engagement during community meetings since the first prototype to illustrate with images how the water filtering systems work."

"We would need to compromise between top-down and bottom-up management, as there are certain speciality and science-related activities going on in the upcycle lab. There would need to be some sort of training for running correct processes and training for running an enterprise of this sort. Probably, another CLO (Community Liaison Officer) will have to be chosen. We would need to co-design a criteria for the types of skill sets people would need."

(Interview with an In/formal South representative, 2015)

In response to a question regarding the long-term management and operation of the waste water and solid waste management system, a community leadership member pointed out that due process (as it was established by the partnership) will be followed and the community will communicate and co-create a solution:

"I think it will depend on the community. We will call a meeting and then we, as the leaders, will talk to the community and make a plan to see who is going to look after it."

(Interview with a community representative, 2016)

The issues experienced with the initial bio-filter prototypes have since been resolved through intensive meetings and capacitation workshops to include more community representatives in the management of the prototypes.

The professionals and stakeholder-managers were reminded by this obstacle that this process ultimately belongs to the users – the community. If the users do not have access to the correct information and resources to address issues such as this, then the work of the professionals and the 'outside Langrug' team would be unsuccessful.

The two quotes below are excerpts taken from an interview the researcher conducted with a community representative. These excerpts verify the findings regarding the ownership of the process. The most important owner of the process remains the community, as it is the community who will be ultimately responsible for the sustainability of any intervention. The 'outside Langrug' stakeholders of the GOS partnership were also successful in succinctly and clearly communicating this importance of the 'inside Langrug' stakeholders throughout the process:

"I wanted to be a part of the forum because we wanted development in our community."

(Interview with a community representative, 2016)

"The people from outside come to the community a lot, and it is not easy. There is not always progress and there is not a lot of space for new things to be done."

(Interview with a community representative, 2016)

5.7 Conclusion

This chapter was used to present the research findings from fieldwork completed between October 2015 and April 2017. The findings were gathered in order to answer the primary and secondary research questions. From the presented findings it can firstly be determined that sustainable options for the management of greywater in areas such as Langrug, which is not sewered, are more likely to be achieved when the users of the management system (the community members) are involved in the whole process rather than traditional approaches in which engineering services are supplied with minimal to no involvement of the end users (Armitage, Carden, Spiegel & Winter, 2011: 45).

The findings indicated that a clear role division within the partnership is key to an effective and sustainable partnership and project implementation. It should also be highlighted that these roles need to consist of a variety of sectors and areas of expertise to create a well-rounded interdisciplinary team. Lastly, the findings on role division showed that a partnership should rely on stakeholders outside of the established partnership where necessary. Furthermore, the findings showed that there are certain measures that can be taken to ensure that all participants are able and willing to fully participate in the process within their designation. These measures include the development of clear leadership structures within the community, agreeing on a communal meeting space (in this case Batho's Place), establishing a project steering committee which consisted of a variety of stakeholders – each with different responsibilities and finally the clear division of labour between all internal and external stakeholders and the effective management of all stakeholder relationships.

Lastly, the findings showed that the role of the professional, over and above the actual technical support and expertise, is to ensure that a relationship of trust is established between themselves and other participants – something which is often missing from other technical projects. This trust relationship formed the foundation for the partnership to identify the correct core issues. It also ensured that all parties agree on the issues which contributed to the effective strategies established by the partnership. The findings also highlighted that the professional was formally accepted as a stakeholder of the partnership from the start, the professionals were (based on the relationship of trust and mutual understanding) able and willing to learn new information from the contextual knowledge of the community, which enabled them to develop technical solutions that are relevant, safe and innovative.

From these findings, it can be concluded that the professional played an interesting and in some ways 'business-unusual' role in the urban upgrading process in Langrug. It is also clear that the role of the professional and the measures that were put in place by the partnership to guide the role of the

professional showed positive results on several levels. The following chapter will further interrogate these findings in relation to the theory discussed earlier.

CHAPTER SIX: INTERROGATING THE RESEARCH FINDINGS

6.0 Overview

This chapter builds on the findings that were presented in chapter five and will be used to discuss and further interrogate the research findings in relation to the theory discussed in the literature review. This chapter is divided into seven parts. In the first part, the findings of this chapter will be interrogated in relation to the literature reviewed in chapter two. The second part will apply a capability analysis approach to the professionals in the GOS partnership (JTED, Maluti GMS Engineering and Biomimicry SA) and briefly discuss the assets that these professionals contribute to the partnership. In the third part some of the key assets that have particular relevance to showcasing the role that the technical professionals played in the GOS partnership and the community of Langrug will be discussed. Part four briefly highlights the importance of partnerships in achieving sustainable solutions. Following this, part five will discuss some of the necessary compromises that the stakeholders needed to make in the interest of the partnership. Part six then reflects on the use of the capability analysis as a tool and explores further research possibilities. Lastly, the seventh part will serve as a conclusion to the chapter.

6.1 A people-centred partnership approach

Many scholars agree that incremental upgrading remains to be the most socially and financially sustainable approach to addressing issues of service delivery in existing informal contexts. In addition to this many recent studies suggest that the need for community participation in these processes, not only in the construction processes, is key to the viability of interventions and the overall development and empowerment of communities; which in turn can ensure longer-term maintenance and ownership of physical assets. According to this kind of approach, which the 1996 Habitat Agenda named the enabling approach, state entities should play a much smaller role in in the delivery of infrastructure and services and rather concern itself with offering support through creating the appropriate legal, institutional and regulatory frameworks and environments in which other sectors, especially the private sector, could more efficiently offer technical services (UN-Habitat. 2014a, 15).

In the context of informal settlement upgrading, this means that there should be a far greater opportunity for communities to play a role in project-level interventions and programmes through participatory platforms and training opportunities. Furthermore, the enabling approach generally views upgrading not only as a physical process, but rather as the upgrading of all aspects regarding quality of life. This produces synergies whereby physical, institutional, social and economic assets are utilised in a way that mutually reinforces each other (UN-Habitat. 2014a, 15).

In the case of the upgrading of Langrug, community participation was utilised as a tool to achieve some of these integrated outcomes by recognising the importance of the role that community participation can play in achieving agreed upon goals. The literature review discussed the importance of this type of partnership and the value of community participation at length.

The other stakeholders of such partnerships, especially technical professionals, are however less prominent in the reviewed literature on partnerships and partnership-based urban upgrading interventions. The literature review furthermore showed that technical interventions are irreversibly linked to social challenges and therefore social issues should be considered by the whole partnership throughout the intervention process.

When technical professionals form part of an interdisciplinary partnership with stakeholders from several sectors, including the community, carefully considered technical solutions can have positive social impacts as well. Thus each professional working on urban upgrading initiatives has a responsibility to work in partnership with others to holistically determine what the best solutions will be – socially, environmentally and economically (Aucamp, 2005:3). Given the urgency for the technical professional to move from working in isolation to working in close partnership with all other stakeholders, the following parts of this chapter will be used to further unpack the role of the professional within a partnership-based intervention by applying the capabilities analysis approach.

6.2 The required capabilities of the professional

The process of urban upgrading in Langrug is guided by a formal agreement (MoC) between different stakeholders that make up the GOS partnership. The previous chapter illustrated the successes and the shortcomings of the intervention in Langrug. In this part of chapter six, the case study of Langrug will be used to unpack the specific role of the professional within the partnership through the use of the capability analysis approach to pinpoint the set of assets that are available to the professional to be an effective stakeholder and contribute to the overall well-being of the partnership.

6.2.1 Capability analysis: the partnership-based professional

The capability analysis framework is used to illustrate the structure of the strategy used to unpack the assets available to the professional to contribute to achieving the goals of the partnership. This framework shows the process of how capabilities influence the outcome of an intervention.

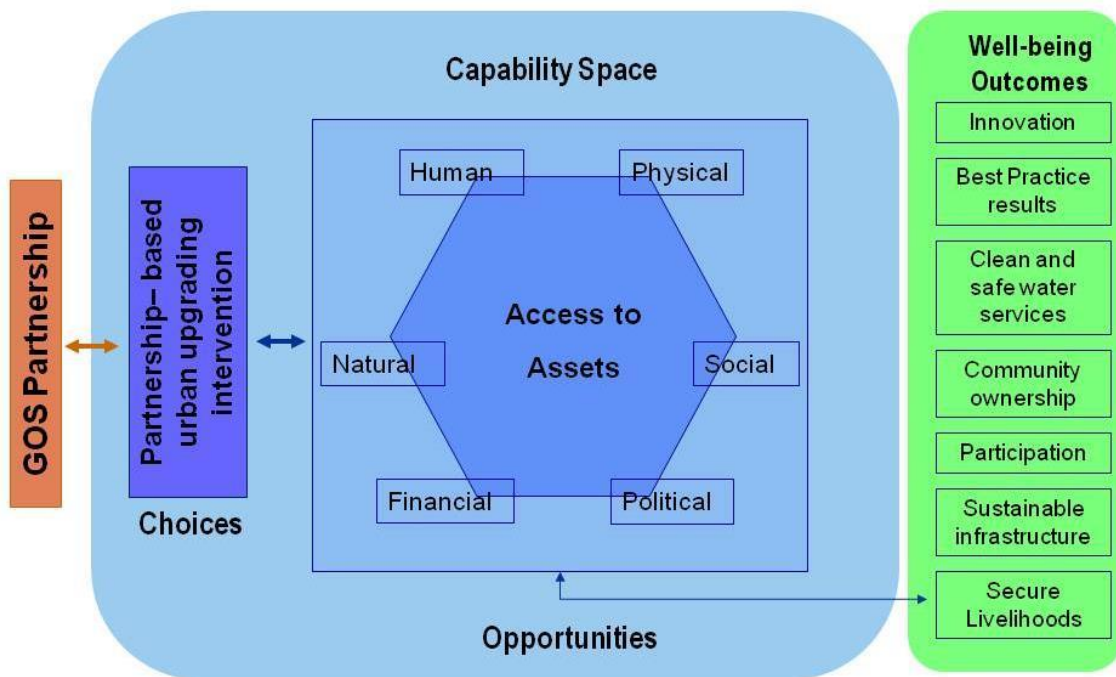


Figure 6.1 Capability analysis diagram of the professionals within the GOS partnership

6.2.2 Capability space: access to assets

The capability analysis approach as developed by the Development Planning Unit (DPU), identifies a 'capability space' as a method for understanding and categorising the different levels of access an entity has to several assets. In the case of the professionals within the GOS partnership, this approach is used to categorise the professional's access to assets and determine where the technical professional can and should offer support to the partnership. Below is a description of the six different assets and an inventory of these assets that are accessible to the professionals in the GOS partnership.

Human assets: Includes labour resource, in relation to numbers and quality – education, health and nutrition (Frediani, 2015).

The professionals in the GOS partnership, have different levels of labour resources available. The partnership identified these resources and applied them to different 'teams' to work on the different parts of the implementation process. The expertise and technical abilities of the professional labour resources was categorised as the 'outside Langrug' team. Maluti GMS consulting engineers, JTED, In/formal South, the Stellenbosch Municipality and Biomimicry SA.

Natural assets: Includes the resources provided by the natural environment. This can refer to access to land or water (Frediani, 2015).

In Langrug, there are limited natural resources available to the professionals. The community, however, has access to the land that they occupy, but there is no additional land available to occupy at the moment. The community has access to water from the mountain streams that flow through the settlement. Furthermore, the community has limited access to supplied water services such as washing facilities, public toilet blocks and water collection points throughout the settlement. The

informal settlement is built along a steep slope, which informed several technical and design considerations and the professionals were able to use the natural slopes to the project's advantage.

Financial assets: Includes the financial resources available to households such as income, savings and credit facilities (Frediani, 2015).

Prior to 2013, CORC has worked in collaboration with the community to set up savings schemes which allows the community access to financial resources on a larger scale as well as access to credit facilities and formal savings account. The breakdown for the budget for the intervention in Langrug has been discussed at many community meetings, thus the professional and the community have access to sufficient information on the budget and is able to make informed decisions based thereon. Furthermore, as highlighted in previous parts of this chapter, the 'outside Langrug' team has initiated payment schemes for the time, expertise and labour of members from the 'inside Langrug' group. In addition to this, the WPI made funding available to the project and funding was secured from a number of international donors and foundations through intermediaries. Lastly, a project-fund was established and all visitors to the settlement are encouraged to pay an honorarium to the fund.

Political assets: Refers to the political avenues available to citizens for claiming access to a variety of services and goods. These can be expanded through local organisations, forums or local political representatives (Frediani, 2015).

The partnerships with CORC and ISN as well as the GOS partnership have been successful in expanding the political assets of the community. In addition to this, the professionals in the GOS partnership were able to access key political role players and were able to assist the intermediaries and community representatives in setting up interdisciplinary forums, organisations and other platforms for engagement during the planning and implementation phases of the intervention.

Physical assets: Includes produced or man-made capital: equipment and infrastructure (Frediani, 2015).

The professionals and the community have since the inception of the implementation phase, had access to physical equipment for construction of the intervention. There is limited access to sufficient infrastructure; however the intervention aims to improve infrastructural systems by using bottom-up initiatives.

Social assets: Are defined as the social relations in a certain reality. They can be associated rules, norms, trust and reciprocity (Frediani, 2015).

The social relations between the professional and other stakeholders in the GOS partnership are functioning well. Extensive groundwork has been done in establishing trust and accountability in the partnership. Several committees were established and task teams were assigned with quite a few successes in terms of planning and implementation. Thus the professional has sufficient access to social assets to achieve the successful implementation of the physical intervention. Another social asset to consider is also the community cohesion and support that influence the success.

6.3 Using capabilities to achieve the GOS well-being outcomes

All of the above assets form an intricate part of the professional's assets and therefore plays a role in contributing to the outcomes of the partnership's overall goals. As stated in the literature review the capability analysis can be a useful theoretical tool in determining the relations between material, - relational and subjective components of a desired well-being. The skills and competencies of the technical professional clearly contribute to the partnership's well-being goals and are therefore intricately part of the partnership and cannot be removed from it.

In the following part of this chapter, some of the key assets that have particular relevance to showcasing the role that the technical professionals played in the GOS partnership and the community of Langrug, will be discussed. These assets include firstly, a revision of the importance of a focus on community participation, which leads to empowerment (social assets). Secondly, the importance of innovative funding streams and partnership-based financing initiatives (financial assets), and lastly a comparison between technical design and a developmental approach to service provision (human assets).

6.3.1 Social assets: community participation in partnerships

The concept of participation and community participation for community empowerment, has been discussed at length in the previous chapters of this dissertation, and it has been determined that communities play a vital role in the success of partnership-based interventions. Research from many different sources show the importance of community participation in planning, designing, implementing and evaluating co-created interventions.

The participation of the community is an enormous asset to the external stakeholders in a partnership, and therefore all partnership-based urban upgrading interventions require the participation of not only external (private sectors and professionals) stakeholders, but also from internal stakeholders (UN-Habitat. 2014a, 41).

UN-Habitat (2014a) also promotes this concept of participation through the development of the 'people's process'. This process is based on the evolution of the thinking of technical professionals in dealing with post-disaster and post-conflict situations. It has been proved that this process can also be applied in any context and any community where the development needs are significant. Importantly, this 'people's approach' does not stipulate that communities are solely responsible for their development. There is a very important role for the professional, the government and for intermediaries to play as well, and it is recognised that all of them possess different resources and skills to support the relevant actions of the community. Therefore partnerships (such as the GOS partnership in Langrug) are often formed as a tool to implement a 'people's process' approach.

This is however only one of two broad paradigms that are used to approach development. The other, in direct contrast to this one, is based on one stakeholder exercising control over others. The figure below illustrates the differences between a ‘people’s approach’ and one of the more conventional approaches to urban upgrading and community development. The main difference between these approaches can be seen in the areas of control: the conventional approach shows that authorities or the professionals have all the decision-making power and drive the process regardless of the inputs from the community. In the illustration of the ‘people’s approach’ the people (community) are at the centre of decision-making and action.

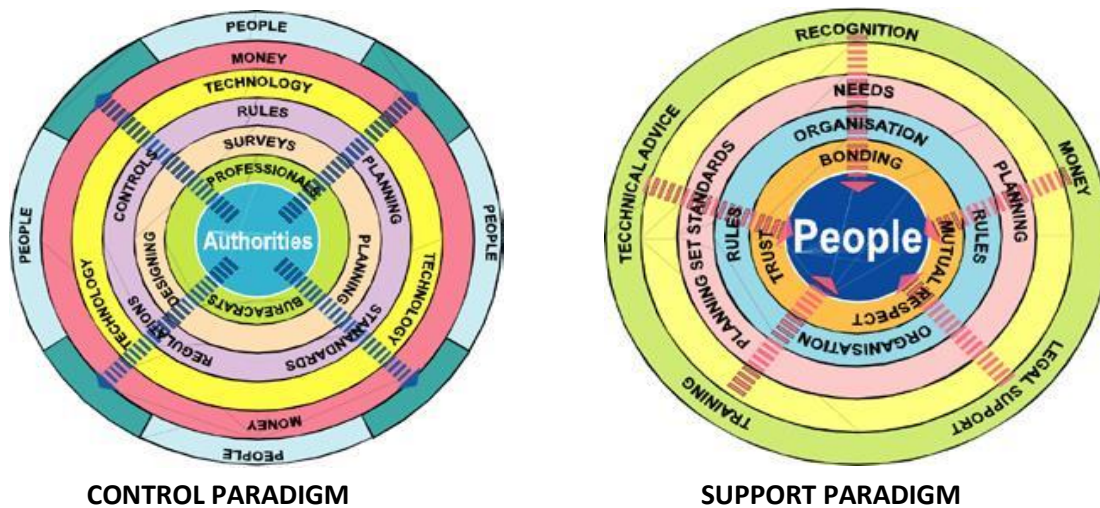


Figure 6.2 Contrasting the control paradigm with the support paradigm (UN-Habitat. 2014a, 49)

When looking at these illustrations in figure 6.2. it is important to note that the roles and responsibilities of the technical professionals is more or less placed in the same area as ‘authorities’, but that the origin and the flow of the process and the focus of the efforts are on opposite sides of the spectrum: one being ‘authorities’ and the other one ‘people’. Therefore, it is important to note that the specific expertise that the professional is able to bring to a certain approach does not necessarily differ much from one paradigm to another, however the difference lies in the style of applying the expertise (UN-Habitat. 2014a, 61).

However, what changes is where these efforts of expertise are aimed. In a partnership-based intervention like the GOS partnership in Langrug, which aim to follow a ‘support paradigm’, the kind of expertise that the professional brings does not necessarily change too much, but rather the manner in which this expertise is co-produced and shared is determined by the ‘people’ at the centre. This approach is thus key to understanding the role of the professional in urban-upgrading interventions. In contrast to this approach the ‘control paradigm’ where community participation is often insufficient or even completely lacking, several obstacles, with regards to the expertise and contribution of the professional, will most likely be encountered. Some of these obstacles include:

- Community members stop paying for specific services: if the upgrading solutions do not reflect the priorities of the community or the standards of service delivery are ignored, the residents will often react negatively.
- The community does not maintain and manage the project benefits: if the improvements that have been made, were done without paying sufficient attention to what the community wants they can hardly be expected to maintain them.
- Residents encroach on public spaces: respect for private and public spaces and keeping these two kinds of land separate, largely depends on the community's acceptance of how their spaces have been planned. In cases where the community has not been involved in planning, they are likely to not offer the control that they are best able to provide.

(UN-Habitat. 2014a, 49)

It is clear from the research findings that the external stakeholders (outside Langrug), and especially the professionals made several efforts to support the internal stakeholders (inside Langrug) to lead their own development. This was done through attempting to understand the current issues and the measures that the community took to address some of these issues. The 'outside Langrug' team made significant efforts to work alongside the community through regular community – and community leadership meetings as well as through establishing platforms such as the GOS task team.

6.3.2 Financial assets: partnership-based funding initiatives

Another aspect of the role of the professional in the partnership that stood out in this case was the financial agreements within the partnership. Firstly, the intervention as a whole is funded as one of the projects of the Western Cape 110% Green initiative. This initiative was launched in 2012 calling organisations to commit to the Green Economy. 110% Green, an initiative of the Department of Economic Development and Tourism, is proposed to be a catalyst to build a critical mass of activity that puts the Western Cape on the road to become a green economic hub.

Additional funding was made available to the project through the WPI and to a certain extent funding for certain activities were accessed from a number of international donors and foundations through the partnership with intermediaries such as CORC. The research findings further indicated that some of the professionals in the partnership, specifically JTED and In/formal South, established a project-fund for the community partners and requested that all visitors to the project and the settlement pay a small honorarium to the fund. This arrangement is interesting as it gives real and tangible recognition of the value of the time and the expertise of the partnership as a whole. Lastly, these organisations also determined that community members who participated in certain activities would receive a stipend for offering their time and institutional knowledge to the partnership's process. These financial arrangements are noteworthy as it seems that the partnership was to a certain extent able to develop an innovative approach to raise additional funds for the initiative to pay for less tangible and social aspects which are not traditionally considered.

These arrangements are however only possible if all of the different stakeholders are involved. By involving government, the private sector, community members, intermediaries, and other professionals the partnership was able to draw on the resources and expertise of a variety of stakeholders.

Aspects of affordability could be addressed by investigating innovative and low-tech solutions and matching service levels and influencing regulatory frameworks. In addition to this, there is also widespread recognition that the source of capital needs for such interventions cannot be met by government taxes, donor grants or other development finance institutions alone, but rather more funding has to come from private sector investments through the efforts of the intermediaries. This trend is growing every day and more effort needs to be made to develop projects such as the one in Langrug in a way that is could be attractive and viable for more private sector investors.

The stakeholders in these partnerships, especially in the 'outside' Langrug category should take more action to encourage investment in such projects by also understanding and meeting the needs of these private sector investors. These needs include: good and reliable returns, risk-adjusted returns and socially responsible investments. Each category of investor might give different weights to each of these, but all need to be present in one form or another. An increase in the private sector investment and participation can also in turn make a significant contribution to the efficiency of several processes, and a more commercial and formal approach could lead to more formalised relationships and in turn lead to enhanced investment opportunities (Jackson, 2003: 3).

The role of the professional in this case is thus to understand the complex and demanding nature of these private capital markets and also to engage with relevant regulatory frameworks to overcome challenges and attract capital funding for viable interventions. The public-private relationship with regards to urban upgrading is still quite under-developed in South Africa and a lot more can be done to grow and develop these relationships, but the professionals within the GOS partnership showcase some innovative options to partnership-based financing (Jackson, 2003: 4). Finally, a very clear link between sufficient and sustainable service delivery and adequate funds and affordability can be drawn. Therefore, sustainability as an overarching goal should be taken into consideration with all proposed interventions.

6.3.3 Human assets: technical design versus developmental service provision

In 2008, a research team from the University of Cape Town worked on a project in Langrug for the Water Research Commission. This project was, much as the GOS partnership, aimed at understanding what the challenges of managing greywater runoff, what could be done on the ground to overcome these challenges and also what support could be offered by the municipality and other partnerships. Dr Kevin Winter, the lead researcher of the project reported that this project yielded some results, but

sadly it made very little difference to the problems that were still largely persistent in the settlement. The prevailing observation from the team was that the community seemed unwilling to deal with the greywater issues themselves. Greywater management, as with sanitation is a collective issue that needs to be addressed at scale (Winter, 2014: 1).

Since 2008 there have been significant changes in the community of Langrug. Firstly, as was reported earlier, CORC started working with the community in 2010 and contributed significantly to building the leadership structures and strengthening the social processes in the settlement, which has made a substantial difference to the community's social cohesion. This level of organisation and social cohesion also played a key role in selecting the settlement for the Western Cape government's 110% Green Campaign. When Dr Winter visited the settlement (and the GOS interventions) again in 2014, he observed that the technical solutions that were proposed by the research team in 2008, was not so different to the solutions of the professionals in the GOS partnership, but that the real difference was the inclusion of the professionals in a well-functional and interdisciplinary partnership. Both solutions were concerned with understanding the connections between human activity, waste water generation and management, but the success of the interventions of the GOS partnership lies in the intensive engagement and involvement of the professional with all of the partners throughout the whole process (Winter, 2014: 1).

These two different approaches to addressing greywater management highlight the difference between providing purely technical design solutions and providing truly developmental services. Technical professionals play a very important role in moving from the one approach to the other. It is clear from Dr Winter's reflections (2014) that simply providing technical design solutions in a settlement such as Langrug cannot be effective or sustainable. Professionals are therefore required to adapt and develop their skills to be able to provide (in this case) water services that can meet development as well as technical objectives. Van Ryneveld and Sproule (2009) indicate that a major aspect of achieving success through providing developmental water services is often a combination of political, social, institutional and technical disciplines in a unified approach, and a genuine commitment to such a partnership between disciplines can lead to long-term sustainability and empowerment (Van Ryneveld & Sproule, 2009: 390).

6.4 The interconnected nature of sustainability

Throughout this investigation, sustainability is highlighted as an indicator of a successful partnership and a successful intervention. The sustainability of an urban upgrading intervention according to literature discussed in this dissertation is also indicative of a successful partnership and a broader community participation process.

This is clear in the study of the GOS partnership: one of the reasons that the intervention seem to have been successful up to this point is that the different assets of the partnership are not simply addressed on their own, but are rather used to reinforce each other towards achieving a holistic goal (well-being outcome). For example, the small-scale improvements of greywater management have also had an impact on overall community health and productivity. The next phases of the intervention propose micro-enterprise development which will also increase not only household incomes, but also stimulate the local economy (UN-Habitat. 2014a, 115).

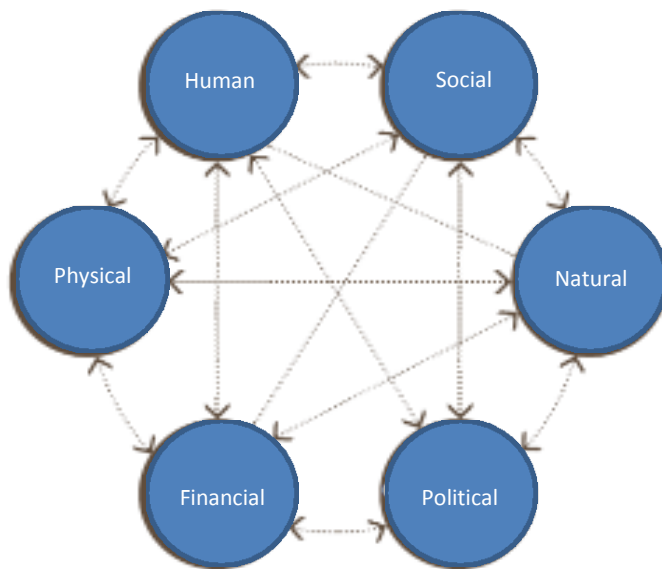


Figure 6.3 The interconnected nature of sustainability (UN-Habitat. 2014a, 115)

The above diagram shows that logically, if the benefits of upgrading are interconnected then so is their sustainability. Therefore, neglecting only one asset will inevitably have an impact on the other assets available to the community. Broken water management systems that are not addressed will have an effect on family health and create hazards for the greater community as stagnant pools of water become breeding grounds for disease, which can be spread to other areas as well. The further deterioration of such systems could also have negative consequences for micro-enterprises which in turn impacts on the economic system of the whole community. Thus the failure to sustain one of the assets can have a multiplier effect on all of the other assets. However, the counter argument is also true, stating that by providing the sustainability of one asset, the sustainability of other assets become more attainable (UN-Habitat. 2014b, 117). In light of the recognition of the impact that one aspect has on another, the next part of this chapter will look more closely at some of the necessary trade-offs and negotiations that partnerships need to undergo in order to achieve success.

6.5 Trade-offs and negotiations in the GOS partnership

Throughout the research and data collection process it became evident that even though development approaches such as the one of the GOS partnership have shown some tangible

successes, there are always several trade-offs and negotiations that have to take place between the different stakeholders to reach necessary compromises. The interviews with the different individuals and the site observations during the study has shown that due to some unintended circumstances, it is not always possible to achieve all of the desired outcomes (both physical and social) within the desired timeframes. In Langrug, the partnership had to take into consideration that several previous developments have been initiated in Langrug prior to the GOS partnership's project and that these developments would directly influence this project. In the following subsection one of the main obstacles from the Langrug case study – where unintended circumstances lead to tension – will be discussed and the required trade-offs in the interest of progress will also be addressed.

6.5.1 The consequences of the demolition of the WaSH Facility

One of the key obstacles that stood out in this case study was the issue of responsibilities of managing and maintaining the physical interventions. This obstacle is not limited to the GOS partnership, and can be detected in the greater context of Langrug as well. It was mentioned earlier that there were several interventions in Langrug prior to the GOS partnership's intervention, and these interventions contributed to the physical and social context of Langrug. One of the most prominent interventions is the WaSH facility which was implemented prior to the establishment of the GOS partnership. This facility was constructed in 2011 as the result of a partnership between the Worcester Polytechnic Institute (WPI), the Langrug community and several support organisations. Access to water and sanitation was identified as a key issue and subsequently the partnership co-created the WaSH facility as a solution. The facility included bathrooms, laundry space, a children's space and a caretaker's office (du Preez & Malan, 2016: 12).

In the years following the construction of the facility tension arose between the Langrug leadership and some external stakeholders regarding the roles and responsibilities around the management and maintenance of the facility. Since early 2014, the WaSH facility was increasingly vandalised and misused by delinquent youths from Langrug and adjacent communities. This was a cause for concern for the community and a threat to the developments that the GOS partnership was proposing. Further investigation showed that the facility mainly fell into disrepair due to two main reasons. Firstly, there was never a clear handover of the facility to the community, and subsequently the community was not aware that the Municipality regarded them as the owners of the facility. Secondly, there was no clear plan for funding to maintain and clean the facility (du Preez & Malan, 2016: 20).

This left the facility unhygienic, unsafe and underutilised. Tension between the community, the leadership of Langrug and external stakeholders reached a climax when the community received word that the Langrug leadership intended to demolish the WaSH facility. Then, one night in April 2016, the community took it upon themselves to demolish the WaSH facility and take the materials for themselves before the leaders could do anything. The demolition of the WaSH facility had a significant negative impact on the whole development process in Langrug, and this event highlighted that

continued investment in physical assets in the community without addressing broader governance and leadership requirements could be more harmful to the community than helpful (du Preez & Malan, 2016: 17).

These unintended circumstances created several obstacles for the GOS partnership and also led to a reflection within the partnership to examine their developmental role in the community. On a social level, this meant that the partnership needed to manage some of the tension between community members and external partners regarding the implementation of yet another project, while many community members were growing increasingly dissatisfied with some of the results of previous interventions. This created high levels of distrust between stakeholders and the GOS partnership had to spend a lot of time rebuilding and developing trust within the partnership.

The issues of miscommunication and distrust regarding maintenance and management also came up in the implementation of the first prototypes that the GOS partnership developed. The research findings in the previous chapter showcased the tensions that arose between stakeholders in determining the roles and responsibilities in terms of management and maintenance. This was especially clear in the piloting of the biofilters where some community members felt that key information was not distributed to all the relevant people in time, and the partnership had to renegotiate the methods for distributing information, engaging stakeholders and finding compromises. Throughout the implementation process, the partnership needed to be reminded that the process ultimately belongs to the users – the community. Ultimately it was agreed that if the users are unable to access the correct information and resources to address issues such as this, then the work of the professionals and the ‘outside Langrug’ team was unsuccessful.

6.6 Reflections on the capability analysis approach

The goal of this dissertation is to determine what lessons can be learnt about the role of the professional in partnership-based urban upgrading interventions by gaining insight from a successful partnership-based intervention. The researcher determined that in order to answer this question a capability analysis would be necessary, as it offers the opportunity to reflect not only on physical and technical capabilities, but also on social and contextual capabilities. However, given the focus of the research question, less attention was given to the capabilities of other stakeholders (community members, government, intermediaries) in the partnership.

This narrowed focus on the role of the professional in lieu of the other stakeholders did not necessarily allow for a truly objective contextual analysis of the whole of Langrug, which can possibly create a skewed image of the overall context of the area. It is therefore suggested that the capability analysis be expanded to each of the other stakeholders in the same manner. This expanded analysis can possibly yield additional results which could contribute more insights regarding the interplay of the roles of the different stakeholders working together in the partnership. The findings could then be

used to supplement this case study as the capability analysis of stakeholders could give deeper insight into the capabilities of the partnership as a whole.

6.7 Conclusion

Throughout this dissertation, the theory as well as the research findings has shown that one single sector will not be able to effectively address the challenges of inequality, but the combined efforts of the government, professionals, the community and intermediary organisations can contribute towards overcoming the obstacles of spatial and social injustice. A developmentally aligned partnership, which includes the technical professional, is better positioned to utilise not only technical abilities and skills, but also, social expertise to facilitate community mobilisation and conflict mediation strategies. This can lead to more effective upgrading processes which facilitate long-lasting structural as well as social change.

The theory discussed in the literature review suggested that interdisciplinarity in urban upgrading interventions create a platform (networked space) for a shared language between various disciplines. This platform serves as a vessel for stakeholders from different disciplines to analyse a problem, and to identify the same overarching issues. In the context of the provision of services by technical professionals in South Africa, participation (especially of technical professionals) is not too common in urban upgrading interventions. Previous chapters determined that this can partly be ascribed to South Africa's regulatory context and bureaucratic systems regarding infrastructural development and minimum standards for settlement upgrading interventions. These systems do not necessarily allow for the high levels of collaboration that are required for the achievement of 'Citizen Power'. In many cases the roles of professionals in facilitating community participation are doubtful and true collaboration is lacking when professionals are not capacitated to participate in a co-production process; as a result the voice of the poor is not taken into account. In light of this, the researcher identifies the GOS partnership as a worthwhile case study of a successful partnership-based urban upgrading process. An interdisciplinary partnership (which included technical professionals) was established with the goal of improving both the physical and social aspects of the community of Langrug.

The professional stakeholders formed a key part of the intervention, with several positive outcomes, highlighting the value that professional services bring to an established partnership. In recognition of these findings, the capability analysis was used to pinpoint the assets available to the professional in such a partnership to be an effective stakeholder and contribute to the overall well-being outcomes of the partnership. This framework (see figure 6.1) shows the process of how capabilities influence the outcome of an intervention.

The capability analysis was especially useful in this study to determine the relations between material, relational and subjective components of a desired well-being, to address social inequality and improve access to co-created amenities and to emphasise the importance of recognising and utilising all the assets available to the professional (Frediani & Hansen, 2015: 4). The capability analysis approach is effective in understanding and categorising the different levels of access that the professional in a partnership has access to and where technical support lies within the GOS partnership. This approach shows the process of how capabilities influence the outcome of an intervention and the research findings show that the management and distribution of resources is subject to the structure of the relationships between stakeholders and therefore engagement on all levels of participation is critical.

This chapter was ultimately used to provide answers to the primary research question: what lessons can be learnt about the role of the professional in partnership-based urban upgrading interventions by gaining insight from a successful partnership-based intervention? The last chapter of this dissertation will be used to offer some conclusions to the findings of chapter six and make recommendations regarding the role of the professional in urban upgrading partnerships.

CHAPTER SEVEN: CONCLUSIONS AND RECOMMENDATIONS

7.0 Overview

From the research findings in chapter five and chapter six, this final chapter will present a series of observations and recommendations regarding the role of a professional in a partnership-based urban upgrading initiative. It is clear that the role of the professional cannot be separated from the partnership and therefore some observations and recommendations will also be made regarding the partnership as a whole. To achieve this, the chapter is divided into four parts: the first part presents a summary of the research findings and reflects on some of the secondary research questions. In the second part, the researcher presents the key factors that led to the success of the GOS partnership. Part three makes recommendations regarding the role of the professional in partnerships, based on the findings of the case study. The fourth part presents some considerations for further case studies in this area. Finally, the fifth part provides some conclusive reflections on the research project as a whole.

7.1 Remarks on research questions and findings

In the earlier chapters of this dissertation, some secondary research questions (in addition to the primary research question) were asked. This part of chapter seven will utilise the research findings from the previous chapter, as well as some of the discussed literature to remark on each of these questions separately. This is done in order to draw a conclusion to the whole research process and to make some, more specific, recommendations regarding the role of the professional in partnership-based urban upgrading interventions.

7.1.1 What mechanisms are used to ensure that all stakeholders contribute to the process?

From the research findings it is clear that the GOS partnership has established a sufficient level of trust between the stakeholders. The community is well-informed on the process of the intervention as well as on how the technical systems work and why these systems are important. It is also clear from the research findings that the partnership was successful in establishing a set of common goals to be achieved. Furthermore, it has been established that this intervention is a necessary one for a myriad of reasons, and that different stakeholders' benefit from the results of this successfully managed and sustained project. In the literature review (chapter two) of this dissertation the partnership, as a vessel for overcoming challenges and addressing the needs of communities through demand-driven urban upgrading interventions is discussed.

This discussion showed that any successful partnership requires a high level of transparency and trust throughout the process and that all of the stakeholders should take care to establish a level of legitimacy with their partners to acquire the necessary support for the intervention. This is of course achieved through sufficient communication and ensuring that the motives of all the partners are clear (Moynihan, 2012: 27).

From the research findings it is also clear that the importance of clear role division and understandable and attainable goal setting is well-understood by the professional stakeholders in the GOS partnership and that the contributions from all stakeholders needs to be underpinned by mutual trust and by honouring basic agreements, such as being on time for meetings. By ensuring that all stakeholders are mutually accountable, the responsibilities of each are equally important. Therefore, it is clear that a single discipline is not able to address the complex challenges of inequality, but rather the combined efforts of the government, professionals, the community and intermediary organisations can contribute towards collectively overcoming these obstacles (Fieuw, 2015). Thus, the partnership-based approach is viewed as the most important mechanism to ensure that all stakeholders contribute towards achieving community empowerment – where communities are enabled to participate in making the decisions regarding their own futures and ensure sustainable service delivery outcomes.

7.1.2 What is the role of each stakeholder in the upgrading process as a whole?

The research findings showed that in Langrug, the partnership was deliberately designed to support a decidedly people-centred urban upgrading process. The partnership was built through institutionally facilitated mobilisation, inclusive and community-based problem solving and resource mapping. When reflecting on the literature review, a UN-Habitat publication (2014b) stated that community members should be recognised as key stakeholders in any upgrading process, and should be involved from the earliest phase of the intervention. Community members are the best placed to indicate what their needs and priorities are, and a truly collaborative partnership can enhance the likelihood that the intervention will succeed.

Local governments, on the other hand, should be a partner to the solution, but should not lead the intervention. In line with this, professionals offering technical services are also important to the process, but need to play a supporting role to communities rather than trying to impose their professional opinions. This has proven to be the case in Langrug: a well-functioning partnership was established and the different stakeholders are able to fully participate in their respective roles. These findings can be used to contribute to the existing literature, which shows that partnership-based approaches to development have become obvious solutions to addressing issues of service delivery and the upgrading of informal settlements (Jones, 2003 & Agarwal, 2001).

7.1.3 What processes are put in place to ensure the sustainability of the intervention?

The study of the GOS partnership showed that the different stakeholders of the partnership are not simply addressing one isolated part of the intervention using their own expertise, but rather use the strength of all the stakeholders to reinforce each other towards achieving a holistic goal. Figure 6.3 in the previous chapter illustrated that if the benefits of upgrading are interconnected, then so is the sustainability of the intervention. Therefore, if one aspect is neglected it will inevitably have an impact on the other aspects of the whole. The GOS partnership recognised this phenomenon early on and took measures to ensure that the correct processes were in place to ensure the sustainability of the intervention. The partnership took time to actively focus on understanding and addressing the complex challenges that the community face. The technical professional, as part of the GOS partnership, was therefore able to develop technical support systems that could address the challenges of informal settlement communities in a holistic and sustainable manner. Through this robust manner of engagement between stakeholders (professionals and communities) opportunities for knowledge transfer and capacitation was possible, activities which are crucial to achieving citizen power (see figure 2.1).

Having presented a summary of the research findings in terms of the research questions, the following parts of this chapter will draw on the research findings of the GOS partnership and discussed literature to list the key activities which are needed for a successful partnership-based intervention.

7.2 The partnership-based approach

The research findings suggest that in Langrug, the partnership was deliberately designed as a way to support a decidedly people-led and people-centred urban upgrading process. The partnership employed several strategic activities in aid of this approach. These activities are listed below:

1) A commitment was made to align project implementation to UISP policy intent

The dissertation indicated on several occasions the general disjunct between policy intent and implementation on the ground. As explained in previous chapters, the intent of the UISP policy is to address social and economic exclusion by focusing on community empowerment and the promotion of social and economic integration, and a commitment to building social capital through participative processes to address the broader social needs of communities. In Langrug the UISP was implemented and mandated by the Stellenbosch Municipality, and as per the programme intent, funding is made available to support the required social processes. Even though these limited funds did not adequately cover the true costs of the required community engagement and capacitation processes, the transparent and multi-sectoral partnership was able to overcome these limitations and meet the project requirements as the agreed upon goals and values of the partnership were closely aligned to the UISP policy intent.

2) A focus on community empowerment formed the core of the partnership

The intervention in Langrug was developed through a demand-driven approach rather than a supply-driven approach (UN-Habitat. 2014a, 27). This encouraged all stakeholders to actively take part in the process and make decisions regarding the development of the intervention. The needs of the community guided the process and community members were able to participate in making decisions regarding their own futures. Community participation was viewed as a tool to achieve community empowerment.

3) The partnership convened regular community meetings

The convening of regular meetings ensured that all participants had several opportunities to engage with the development process, get access to relevant and important information, and voice their opinions. These meetings also allowed the external stakeholders to further engage with the internal stakeholders to exchange ideas, test concepts and share technical knowledge on a very practical level. These meetings required quite a bit of additional commitment from all stakeholders, as meetings were often held after hours and could become quite lengthy. It is nevertheless a very important component of a successful partnership as it is a crucial platform for communication.

4) The partnership recognised its limitations and collaborated with other parties

When the GOS partnership was established in Langrug, there were already some intermediary organisations present in the settlement. These included ISN (as part of the SDI Alliance) and Habitat for Humanity South Africa. These intermediaries played a crucial role in introducing the external stakeholders to the community and to facilitate communication between the community and the professionals. It was important for the GOS partnership to realise that the assistance of ISN was crucial in gaining access to the community leaders and also to accessing valuable information regarding the community and its social systems.

5) Formalised leadership structures were established

These are also crucial in facilitating a truly community-driven and community initiated urban upgrading process. Formal leadership structures allow for a group of (democratically elected) individuals to represent the needs of the broader community. It is not necessarily possible to engage on the same level of intensity with all of the residents and therefore a hierarchy of leadership structures, each with a specific area of responsibility was established specifically for the GOS partnership's interventions. The leadership structures in Langrug include, block leaders, area leaders, and others who all answer to the general community leadership.

6) A formalised agreement in the form of a MoC was signed by all parties

This agreement stipulated each stakeholder's responsibilities; all the parties also had to agree to and sign the formalised agreement. This has been very valuable in reducing or avoiding conflict between parties.

The formal agreement establishes an external level of accountability and a level of trust between stakeholders in the partnership as they are essentially contractually bound to deliver certain predetermined and agreed upon deliverables. The clear role divisions that were set out in this agreement also assisted in helping all the stakeholders understand what could be expected from them and from others.

7) A formalised platform for centralising decision-making processes was established

The partnership agreed that a centralised body, which could represent all stakeholders proportionally should be established to oversee the whole intervention. The Project Steering Forum was consequently established and consists of representatives from Langrug block committees, the internal project team, members from the Langrug leadership and relevant ward committee members. This forum meets regularly, with the sole responsibility of overseeing the partnership and consolidating separate processes.

8) The construction process was planned according to clear and interdisciplinary role-divisions

As a continuation of the intentions of the formal MoC agreement, the construction of the pilot phases of the greywater management systems were carefully developed to distinguish between 'inside Langrug' and 'outside Langrug' teams. Each of the teams had very specific roles and responsibilities and each team was aware of their role in relation to the other's role. This sped up the construction process and contributed to its success.

9) The professionals played a key role in transferring knowledge to community members

Several capacitation workshops were facilitated, especially during the construction phases of the intervention, to expand the skills of the community members. The professionals played a key role during these workshops by transferring technical knowledge to community members and offering training to them which allow them to access more of the resources at their disposal.

7.3 The role of the professional

The aim of the research is ultimately to make recommendations for the role that the professional should play in the partnership-based urban upgrading interventions by investigating the role that professionals play in the GOS partnership in Langrug. The previous part of this chapter listed the most important practices of the GOS partnership that led to its success to date, and suggest that these practices are key to the success of any partnership-based urban upgrading intervention. From these practices the following five key responsibilities, specific to the role of the professional, can be determined:

1) The professional has to be formally accepted as a stakeholder in the partnership

One of the key successes of a partnership is the establishment of a formal agreement, such as the MoC that was signed in the case of the GOS partnership. The nature of this agreement is not legally binding, but does serve as a platform to explicitly state the roles and responsibilities and to keep each stakeholder accountable. It is thus imperative that the professional is included as a formal partner and is also expected to sign a formal agreement. In many similar upgrading interventions, the norm is that the professional is excluded from such agreements or is expected to form separate agreements with only one stakeholder (often government). This can be problematic as the Langrug case study has proven that there is great value in encouraging the direct interaction between professionals and community members. By further formalising these interactions through agreements, an external level of accountability and trust is formed, the roles and responsibilities of each are clear and the stakeholders are able to communicate more effectively.

2) The professional should offer technical services that are relevant, safe and innovative

Due to the intricate and often complicated nature of informal settlement upgrading interventions, innovative, low-tech solutions are required to meet the needs that are collectively identified by the partnership and also expressed by the community. Professionals are therefore frequently tasked with having to investigate unconventional solutions and use innovative technology appropriately and creatively. Solutions to these challenges will also (as in the case of Langrug) not be large scale business-as-usual or by-the-book infrastructural interventions. These are usually more labour intensive, time consuming and could incur quite a few challenges with outdated policies and standards (which are currently under revision). The role of the professional in these cases is thus crucial in identifying the correct technical solution that can take all of the requirements into consideration. The case of Langrug is an excellent example of such a solution: the professionals were able to co-create a low-tech, but still impactful, intervention (which has the potential to be scaled-up) by expanding the water management system that has already been developed by the community.

3) The professional must be willing to learn new information from contextual knowledge

As highlighted in the previous point, the professionals (due to the nature of the partnership) were able to get access to the community members and to communicate with them on several occasions before developing a solution. This allowed for the professional to gain first-hand knowledge of the intricacies of the challenges and also understand how the community has been able to address it. These interactions encouraged the sharing of knowledge from different sides and ensured that the challenges were well understood and well-framed within the larger context before solutions were explored. Thereafter, the site-specific solution was created in a very similar fashion. This arrangement however requires from the professional the realisation that there can be a wealth of contextual knowledge in each of the areas that they are contracted to work in, and that there is immense value to them and the whole intervention when contextual knowledge is uncovered, utilised and even developed further.

4) The professional must transfer relevant technical knowledge to other role-players

During the course of the intervention, the professional should set aside some time to ensure that the relevant knowledge that the end-users of the intervention could benefit from, is correctly transferred. This can be achieved through capacitation workshops, training seminars or by setting up skills development platforms. By doing this, the sustainability of any planned intervention can be secured, as the users will have been sufficiently capacitated to manage it. This also requires a certain set of skills from a professional which would not be required in other more conventional cases. The professional should be able to convey complicated technical concepts to other stakeholders in a way that is accessible and ensure that all technical drawings and illustrations are presented in such a way that all stakeholders are able to understand and engage with.

5) The professional should be available to be capacitated with regards to additional skills

Finally, it is very important that any professional engaged in a partnership-based upgrading intervention should have an interest in also gaining new skills themselves. The professional has to realise that he/she does not already have all the necessary skills that are needed to fully contribute to a particular partnership, especially in terms of the social and developmental aspects of the partnership, and by extension the intervention. The professional would need to rely on other specialists in these particular fields and care should be taken to also transfer valuable and relevant information to the technical professionals from other external experts. In the case of Langrug it was evident that the willingness of the professionals to engage on a deep level with intermediaries and the municipality has enabled an environment that is conducive to creating sustainable and integrated solutions.

It is suggested that these five key responsibilities, which have emerged from the case study of the GOS partnership should be taken into account in addition to the traditional and more technically specific roles and responsibilities of any professional stakeholder in urban upgrading interventions. If the professional in any given partnership-based urban upgrading intervention is able to take these actions, it is suggested that this will greatly contribute to ensuring more successful and sustainable well-being outcomes for an intervention. The following section of this chapter will briefly highlight some of the greater research implications that can be gleaned from this case study.

7.4 Beyond Langrug: greater research implications

Case study research as a methodology was discussed in the earlier chapters of this dissertation and it was pointed out that case study research provides a framework for analysing a specific incident in a specific context. It was also indicated that one of the biggest challenges of conducting case study research is that by its specific nature, its results cannot necessarily be duplicated as is or applied to other cases.

However, it is argued that the findings and the recommendations that were uncovered in this specific case can be applied to other partnership-based urban upgrading interventions. Firstly, the principles of this research and the in-depth analysis of partnerships can fruitfully be used to provide insight into other research projects. Furthermore, this case study shows the benefits of including professionals in partnership-based urban upgrading interventions. Thirdly, the recommendations that are suggested as a result of this research can be packaged into relevant knowledge products (toolkits, manuals) to further encourage the participation of technical professionals in such partnerships. Lastly, this research could form the foundation for continued studies and additional research on similar topics, two potential topics for further investigation (based on this research) can be:

1. Investigating the translation of informal community-led innovative solutions into solutions for urban development challenges in formal contexts

The interventions that have been made in Langrug are quite unique as all of the interventions are low-tech, context-specific and technically innovative and from the existing research it is clear that the success of these interventions are not only due to technical innovation but also a result of the intensive involvement of the community at each stage of the interventions. The success of this specific intervention and other similar innovative solutions in informal contexts starts to raise the question of whether some of these innovative technical solutions could be applicable to other, more formal urban contexts. For example, if greywater biofilters were successfully installed in Langrug, could similar solutions be installed in the homes in Fransshoek (the small affluent town next to Langrug)? An investigation of the feasibility of translating successful innovations (achieved in informal communities such as Langrug) into large-scale solutions for formal communities, could therefore be launched as an addition to this research paper. Qualitative as well as quantitative research methods can be used to determine the extent to which community-led interventions from informal contexts could be applied to address issues of urban development in formal contexts.

2. Investigating the use of innovation in urban design to contribute to the levels of social cohesion on a community-wide level

The importance of technical innovation with regards to water management and spatial design was evident throughout the research process in Langrug, and a number of technical innovative proposals were made for future interventions in the community. This paves the way for further research to be done to (a) pilot and test innovative technical – and design solutions and to (b) investigate the impact of such interventions on the social cohesion of the community. The GOS partnership previously indicated the possibility of introducing a system of greywater biofilters, water harvesting systems and stormwater swales which can culminate in some lower-lying areas which would be designed as public gathering spaces. If this proposal is taken up by the community and is implemented, it could be worthwhile to document the process of

implementation in order to firstly determine the feasibility and relevance of the physical intervention and secondly, to use qualitative research methods to measure to which extent the intervention contributes to the social cohesion levels within the community. These findings can also be used to contribute to the wealth of research and empirical evidence that can be leveraged to lobby for changes in national policies and bureaucratic systems which are currently constraining more development of such a nature, especially on a larger scale. The following section will list some recommendations for policy and practice, based on the research findings.

7.4.1 Recommendations for policy and practice

The case study of Langrug highlighted the value of the development of interdisciplinary and multi-sectoral partnerships to address the complex challenges in the upgrading of informal settlements. It is clear from the study that these partnerships are crucial in ensuring truly collaborative, accountable and ultimately sustainable projects. This study has proven that not only intermediaries, government and the community, but also the technical professional is key to a successful partnership. Therefore, based on the research findings, this researcher recommends that more concerted efforts should be made, in policy development as well as in the implementation of policy, to promote and incentivise the development of multi-sectoral partnerships. It is clear that partnerships are the most effective method of achieving the goals of the UISP and majorly increases efficiency, compensates for shortcomings, increases efficiency in dealing with blockages, transforms attitudes and maximises resources in pursuit of a common objective. Based on the findings from the research done in Langrug, the following recommendations are offered to address some of the current restrictions in policy and practice:

- 1)** Develop clear outcome-level indicators which can be easily utilised to measure the impact of the UISP practices on individual households in line with the policy intent.
- 2)** Capacitate municipalities to measure success in terms of the extent to which lives and communities have been transformed from a socio-economic perspective instead of in terms of serviced sites and municipal service access ratios.
- 3)** Incentivise a variety of funding streams from different sectors to provide dedicated funding for the support of social processes within a UISP implementation process.
- 4)** Institutionalise the development of people-driven partnerships for all informal settlement upgrading projects.
- 5)** Incentivise and encourage partnerships to document project implementation level challenges and successes, and to utilise these findings to formulate evidence-based strategies to lobby for changes in policies, systems and attitudes which are currently constraining more development.

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APPENDIX

The role of professionals in partnerships
INFORMATION SHEET & CONSENT FORM

The role of professionals in partnership – based urban upgrading interventions

Hello, my name is Hannalie Malan and I am conducting research towards a master's degree at the University of Cape Town. I am researching partnerships that specifically focus on projects of physical interventions in the community of Langrug. I would like to invite you to participate in the project. This project is about finding out what the roles and responsibilities of professionals, such as engineers, architects, contractors, etc. is in partnerships that are established to solve issues of infrastructure and service delivery in informal settlements.

I am interested in finding out what a professional does in the area to solve issues related to the upgrading of informal settlements and how the professional's work fits into a partnership-based solution. My aim is to understand how these types of partnerships work and what role the professionals play in these partnerships, and for that I need your opinions and experiences.

Please understand that you do not have to participate, your participation is voluntary. The choice to participate is yours. If you choose not to participate, there will be no negative consequences. If you choose to participate, but wish to withdraw at any time, you will be free to do so without negative consequences. However, I would be grateful if you would assist me by allowing me to interview you. I will be conducting an informal interview with you. I will ask you different questions regarding the intervention underway in Langrug and about the GOS partnership and ask for your personal experiences. The interview will take no longer than 30 minutes and there is no cost involved. There will also be no payment or reimbursements available. I also request your permission to record the length of the interview for research purposes.

It is important to state that there will be no direct benefit to anyone participating in these interviews. There should also be no harm or risk associated with the participation to this interview, but if you feel uncomfortable with any aspect of the interview you are welcome to terminate the interview.

The research will be done in such a way to ensure the confidentiality of all the participants, by keeping the data secure. The interview will be conducted between one participant and the researcher at a time to further secure the data. Anonymity will be preserved by not using the names of any participants and making use of broad descriptions of the participant's affiliation with the interventions.

Research questions: Interview schedule

The role of professionals in partnership – based urban upgrading interventions

1. Introductions and purpose of the interviews.
2. If you are from 'outside Langrug', what GOS partner-organisation do you work for and what is your designation?
3. If you are from 'inside Langrug', in what way do you form part of the GOS partnership? Are you a community leader?
4. Why was a partnership-based in-situ form of collaboration chosen to upgrade Langrug?
5. How do you see your role and the role of your organisation/community in the GOS partnership?
6. What are your specific responsibilities in the interventions of the GOS partnership?
7. What do you think the roles and responsibilities of the 'outside Langrug' GOS partners are?
8. What do you think the roles and responsibilities of the 'inside Langrug' GOS partners are?
9. Are the different responsibilities of the partners adhered to? Please elaborate?
10. Where do you see the responsibilities of the technical professionals (from Maluti GMS, JTED or Biomimicry SA) in the GOS partnership?
11. Do you think the inclusion of these technical professionals in the GOS partnership has been effective or not? Please explain.
12. Do you feel the interventions of the partnership have been successful thus far? Please explain.
13. How is the progress of the intervention measured and by who?
14. Do you think the formation of a partnership such as GOS (as opposed to other government-led interventions) has been effective in addressing the needs in Langrug?
15. Is the Langrug programme as a whole a success story or not? Give reasons.
16. How would you improve this type of partnership and its interventions in the future?

Thank you for your time!

Application for Approval of Ethics in Research (EiR) Projects
Faculty of Engineering and the Built Environment, University of Cape Town

APPLICATION FORM


Please Note:

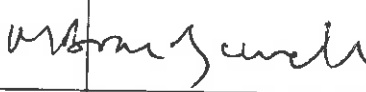

Any person planning to undertake research in the Faculty of Engineering and the Built Environment (EBE) at the University of Cape Town is required to complete this form **before** collecting or analysing data. The objective of submitting this application *prior* to embarking on research is to ensure that the highest ethical standards in research, conducted under the auspices of the EBE Faculty, are met. Please ensure that you have read, and understood the **EBE Ethics In Research Handbook** (available from the UCT EBE, Research Ethics website) prior to completing this application form: <http://www.ebe.uct.ac.za/usr/ebe/research/ethics.pdf>

APPLICANT'S DETAILS		
Name of principal researcher, student or external applicant	Johanna Malan	
Department	Civil Engineering	
Preferred email address of applicant:	malanhannalie@gmail.com	
If a Student	Your Degree: e.g., MSc, PhD, etc.,	Mphil UIDM
	Name of Supervisor (if supervised):	Mark van Ryneveld
If this is a research contract, indicate the source of funding/sponsorship	N/A	
Project Title	The role of intermediary organisations in facilitating the sustainability of participatory-based urban upgrading interventions	

I hereby undertake to carry out my research in such a way that:

- there is no apparent legal objection to the nature or the method of research; and
- the research will not compromise staff or students or the other responsibilities of the University;
- the stated objective will be achieved, and the findings will have a high degree of validity;
- limitations and alternative interpretations will be considered;
- the findings could be subject to peer review and publicly available; and
- I will comply with the conventions of copyright and avoid any practice that would constitute plagiarism.

SIGNED BY	Full name	Signature	Date
Principal Researcher/ Student/External applicant	Johanna Malan		19 Jun 2016

APPLICATION APPROVED BY	Full name	Signature	Date
Supervisor (where applicable)	Mark van Ryneveld		28 Jul 2016
HOD (or delegated nominee) Final authority for all applicants who have answered NO to all questions in Section 1; and for all Undergraduate research (Including Honours).	M Vanderschuer		11/08/16
Chair : Faculty EIR Committee For applicants other than undergraduate students who have answered YES to any of the above questions.			