

An Assessment of the Thatch Harvesting Programme at the Golden Gate Highlands National Park

By

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Abstract

In many African countries, poverty rates often swelling beyond the national average are most prevalent in those rural communities bordering protected areas. As a result, national parks are progressively expected to navigate past the conventional primary focus on biodiversity protection to also, whilst conserving biodiversity, contribute towards improving the well-being of those communities adjacent to conservation areas. One such initiative is the thatch harvesting programme at the Golden Gate Highlands National Park in South Africa.

As the sustainable impact of this programme had not yet been evaluated, this study served to explore the extent to which the thatch harvesting programme had aided in augmenting the well-being of its beneficiaries. Applied within both a quantitative and qualitative context, an outcome analysis was used to determine the degree of this programme's success, the challenges that it faces, the extent to which it has improved the well-being of the participating beneficiaries, the degree to which it has reached the intended population, and finally, how the benefits of this programme might be enhanced in the future.

With this in mind, the five dimensions of well-being as described by the Millennium Ecosystem Assessment were pertinently used to determine the programmes impact on the direct beneficiaries, and an evaluation of the impact of this programme on the park, the broader community, as well as on the commercial buyers that purchased the thatch, was also piquantly explored.

Upon analysis, a number of key findings emerged.

- The programme has indeed improved the beneficiaries' well-being by augmenting their material well-being, health, social relations, and environmental safety, subsequently providing them with more freedom of choice. However, very few of the beneficiaries used the income generated from participating in the programme to pursue sustainable economic activities.
- This programme faces several administrative and logistical issues such as lack of sufficient advertising, delayed permit retrieval, unclear selection processes, and lack of supervision during harvesting.

- The impact of this programme on the ecosystem of the harvested areas has not yet been quantified.
- Anecdotal evidence points towards grass being illegally harvested. Therefore, benefits that should extend to the local communities are contracted.
- Many beneficiaries lack the knowledge, skills and training regarding correct harvesting methods. This restricts accrued benefits and threatens the programmes long-term sustainability.

Drawing from this, there are a number of ways in which the impact of this programme may be further endorsed.

Strengthen the administration process of the programme by:

- a) Ameliorating the application process for beneficiaries.
- b) Extending the period for harvesting.
- c) Establishing clear boundaries of allocated harvesting areas.
- d) Supervising, monitoring and regulating the harvesting process.
- e) Developing clear communication lines between stakeholders and potential sponsors.
- f) Supplementing advertisements for the programme.

Augment an inclusive decision-making approach by:

- a) Involving and supporting participation of the beneficiaries in the decision-making process.
- b) Edifying beneficiaries regarding the need to protect the ecosystem services of the park.
- c) Promoting conservation practice amongst the beneficiaries.

Promote workshops and training sessions by:

- Involving beneficiaries and engaging outside companies to offer training and/or workshops for the beneficiaries.
- Creating a stimulating entrepreneurial environment.

Extend the impact of the programme through future research by:

- Exploring potential entrepreneurial readiness.
- Identifying specific adaptive management approaches.
- Monitoring a greater number of potential areas supporting grass species suitable for harvesting.

In conclusion, although there are some significant challenges faced by the thatch harvesting programme, it has nonetheless augmented the overall well-being of its beneficiaries. However, specific interventions need to be considered in order to further improve the beneficiaries' access to capital, therefore enhancing their capability to meet and sustain their needs.

Abstrak

In baie Afrikalande is die armoedekoers dikwels bokant die nasionale gemiddeld, veral onder gemeenskappe rondom beskermde gebiede. Die gevolg is dat daar toenemend van nasionale parke verwag word om, benewens konvensionele bewaringsdoelwitte, ook 'n bydrae te lewer tot die verbetering van omliggende gemeenskappe se welstand. Een so 'n program is die oes van dekgras in die Golden Gate Highlands National Park in Suid-Afrika.

Aangesien die volhoubaarheidsimpak van hierdie program nog nie voorheen geëvalueer is nie, het hierdie studie ten doel gehad om te fokus op hoe die oes van dekgras die programbegunstigdes bevoordeel het. Toegepas binne 'n kwantitatiewe en kwalitatiewe konteks, is 'n uitkomsontleding gebruik om verskeie aspekte van die program te bepaal: die mate van sukses, die uitdagings wat dit in die gesig staar, tot watter mate die welstand van die begunstigdes verbeter het en die program die omliggende gemeenskappe bereik het, en laastens, hoe die voordele van die program in die toekoms verbeter kan word.

Met die bognoemde ingedagte, is die vyf dimensies van welstand soos beskryf deur die Millennium Ecosystem Assessment gebruik om die impak van die program op die

begunstigdes, die park, die wyer gemeenskap, en die kommersiële kopers van die dekgras te ondersoek.

Tydens die data analise het 'n aantal sleutelbevindings na vore gekom.

- Die program het inderdaad die begunstigdes se welstand verbeter deur toevoegings te maak tot hulle materiële welstand, gesondheid, sosiale verhoudinge en omgewingsveiligheid. Derhalwe het hulle 'n groter vryheid van keuse bekom. Baie min van die begunstigdes het egter die inkomste vanuit die program gebruik om volhoubare ekonomiese aktiwiteite na te streef.
- Heirdie program word gekonfronteer deur verskeie administratiewe en logistieke probleme soos onvoldoende advertering, die vertraagde uitreiking van permitte, 'n onduidelike keuringsproses, en onvoldoende toesig gedurende die oesproses.
- Die impak van die program op die ekosisteem van areas waar daar geoes word is nog nie gekwantifiseer nie.
- Anekdotiese bewyse dui op gras wat onwettig geoes word. Die gevolg is dat voordele wat na die plaaslike gemeenskap moes vloei sodoende verlore gaan.
- Baie van die begunstigdes gaan mank aan die nodige kennis, vaardighede en opleiding in korrekte oesmetodes. Dit beperk opgeloopte voordele en bedreig die langtermyn volhoubaarheid van die program.

Met die voorgaande in gedagte is daar 'n aantal maniere om die program in die toekoms te verbeter.

Versterk die administratiewe prosesse van die program deur:

- Verbetering van die aansoekproses van die begunstigdes.
- Verlenging van die oestydperk.
- Bepaling van duidelike grense vir die toegekende oesgebiede.
- Toesighouding, monitering en regulering van die oesproses.
- Die ontwikkeling van duidelike kommunikasielyne tussen belanghebbendes en potensiële ondersteuners.
- Aanvullende advertering van die program.

Ontwikkel 'n inklusiewe besluitnemingsbenadering deur:

- Die betrekking en ondersteuning van deelname van begunstigdes in die besluitnemingsproses.
- Opvoeding van begunstigdes ten opsigte van die behoefte om die ekosisteemdienste van die park te beskerm.
- Bevordering van bewaringspraktyke onder die begunstigdes.

Bevorder werksinkels en opleidingsessies deur:

- Die betrekking van begunstigdes en buite maatskappye in die aanbod van opleiding en/of werksinkels vir die begunstigdes.
- Ontwikkeling van 'n stimulerende entrepreneuriese omgewing.

Uitbreiding van die impak van die program deur middel van toekomstige navorsing deur:

- Potensiële entrepreneuriese gereedheid te ondersoek.
- Die identifisering van spesifieke aanpasbare bestuursbenaderings.
- Monitering van 'n groter aantal potensiële areas wat grasspesies onderhou wat geskik is vir oes.

Ten slotte, alhoewel daar 'n aantal groot uitdagings deur die program in die gesig gestaar word, het dit nietemin die algehele welstand van die begunstigdes verbeter. Spesifieke ingrypings ten einde die begunstigdes se toegang tot kapitaal te verbeter moet egter oorweeg word, om sodoende hulle vermoë om in hulle behoeftes te voorsien te verhoog.

Keywords: Protected areas, poverty alleviation, conservation policy, integrated conservation and development programmes, Millennium Ecosystem Assessment, ecosystem services, human well-being, outcome analysis.

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List of Abbreviations

GGHNP	Golden Gate Highlands National Park
ICDP	Integrated conservation and development programme(s)
IUCN	International Union for the Conservation of Nature and Natural Resources
MEA	Millennium Ecosystem Assessment
NEM: PAA	National Environmental Management Protected Areas Act
OWB	Objective well-being
P&PP	People and Parks Programme
Qwa-Qwa	Phuthaditjhaba
SANParks	South African National Parks
SWB	Subjective well-being
TMDM	Thabo Mofutsanyana District Municipality
WPC	World Parks Congress
WWF	World Wildlife Fund

CHAPTER 1

INTRODUCTION

1.1 Background and rationale

No matter our social status, or where we are geographically situated, the well-being of all people is entirely dependent on the services that our ecosystems have to offer (Haines-Young & Potschin, 2010). However, approximately 60% of the earth's ecosystem services are being utilised in an unsustainable manner that has resulted in the continued degradation of the environment. This predicament may have some significant implications with regards to development and poverty alleviation strategies wherein societies must, in order to survive, be able to acclimatise to any long-term alterations of the environment (Haines-Young & Potschin, 2010).

Taking this into consideration, development agencies and conservation organisations such as the World Conservation Union, World Bank, Birdlife International, the United Nations, the World Wide Fund for Nature and Fauna as well as Flora International, have served to reinforce a number of conservation practices and policies in which the link between environmental degradation and improving the lives of rural communities has been piquantly accentuated (Dudley, Mansourian, Stolton & Sukswan, 2008).

The central emphasis that has emerged from these accents is that protected areas – and national parks in particular - cannot be viewed as isolated from the economic and social context within which they are located. Worldwide – and particularly in the developing world – protected areas are progressively expected to navigate past the conventional primary focus on biodiversity protection to also, through the process of conserving biodiversity, contribute to improving the well-being of those communities adjacent to conservation areas through the delivery of social and economic benefits (Dudley *et al.*, 2008). To be more precise, it has become essential that the goals of protected-areas management and biodiversity conservation become acquiescent with the socio-economic expectations and needs of the local communities

surrounding national parks (Roe & Walpole, 2010; Ghimire, 1994; Pelsler, Redelinghuys & Velelo, 2013).

In many African countries, poverty rates often swelling beyond the national average are most prevalent in those rural communities bordering protected areas (Hulme & Murphree, 2001). This prevalence is strongly indicative of a poor level of well-being, which according to the Millennium Ecosystem Assessment (MEA) encompasses not just access to material well-being, but also portends to the ability to have access to health, security, social relations and ultimately freedom and choice (MEA, 2003).

Taking this into consideration, one example in South Africa where protected areas have been influential in attempting to augment these dimensions of well-being within neighboring communities is the People and Parks Programme (P&PP) of South African National Parks (SANParks). This programme was implemented post-1994 as an intermediary that endeavors to address the various socio-economic inequalities that were often ignored or sidelined in favor of conservation during the apartheid rule. Following the post-1994 political dispensation, the policy of SANParks became entrenched in the conviction that biodiversity conservation should be directly linked with the needs of those communities neighboring the country's national parks, subsequently opening up possibilities for augmenting the well-being of these communities (SANParks, 2014a; Cock & Fig, 2000). In an attempt to improve the well-being of these neighboring communities, a number of initiatives have been implemented by various parks across South Africa. These initiatives include health programmes, the development of cultural resources, heritage management, environmental education, the interpretation of medicinal plant use, the unlocking of economic opportunities in the form of job creation, and the carrying out of an assortment of arts and crafts projects (SANParks, 2014a; Cock & Fig, 2000).

Emanating from the above, the proposed study focused on the Golden Gate Highlands National Park (GGHNP) located in the Eastern Free State (see Figure 1.1), and the role of the park as a vehicle for improving the overall well-being of those living within the surrounding communities. The study area falls within the Thabo Mofutsanyane District Municipality (TMDM). This district is classified as having one of the highest poverty rates in the country with many of these poor living on the outskirts of the GGHNP (Puukka, Dubarle, McKiernan, Reddy & Wade, 2012;

South African Institute of Race Relations, 2013). Subsequently, the overall socio-economic profile for the TMDM reveals a district in which the majority of the local community – particularly those on the north-eastern boundaries of the park - are hamstrung by low literacy and/or education levels, a high unemployment rate, and low levels of human development (Dudley *et al.*, 2008).

Figure 1.1 Location of the Golden Gate Highlands National Park



(COPA-Academy, 2014)

The relationship between socio-economic development and the services that the ecosystem provides is complex and highly interdependent, thus making the very survival of protected areas such as the GGHNP and the people surrounding it strongly dependent on a mutually beneficial interaction (Swain, 2013). In fact, protected areas such as the GGHNP have a powerful potential and capacity to influence human well-being through the generation of social, environmental and economic initiatives that may not only benefit protected areas but also the local communities surrounding them (International Union for Conservation of Nature and Natural Resources, 2005). Drawing from this, in order to enhance a reciprocal relationship between the people and the parks, there is a need to explore and augment the potential benefits of these initiatives.

1.2 Problem statement

During the apartheid dispensation South Africa was governed by a system that imposed an uneven distribution of resources. Despite the fact that South Africa underwent major political changes in 1994 wherein the new government sought to empower equal rights and improve resource dispersion, the country continues to face major challenges regarding inequality and impoverishment (Zizzamia, Schotte, Leibbrandt & Ranchhod, 2016). The continued prevalence of inequality is strongly indicative of a poor level of well-being (MEA, 2003), which goes beyond the simple access to materialistic possessions, and encompasses many other facets that may impact an individual's perceived quality of life. Taking this into consideration, it has become essential to seek out opportunities that may at least to some extent, augment the well-being of those most vulnerable to inequality. Many of these vulnerable communities live just beyond the boundaries of South Africa's protected areas, and as such, the potential role that these protected areas might play in tackling the socio-economic needs of their surrounding communities need be systematically and thoroughly assessed.

Drawing from this, South Africa has increasingly put emphasis on the role that protected areas may play as vehicles for socio-economic development (Conner, 2007). As previously mentioned, a number of initiatives were launched following the post-1994 dispensation which have served to underline the important role of SANParks with regards to sustainable economic development and their ability to augment well-being within their neighboring communities (Pelser *et al.*, 2013). One such initiative is the thatch harvesting programme offered at the GGHNP. This programme is one of several projects¹ aimed at transferring social and economic benefits accruing from biodiversity protection to the impoverished surrounding communities. These projects aim to augment prospective employment opportunities by means of commercial access permits and park assisted entrepreneurial endeavors (Golden Gate Highlands National Park Community Based Conservation,

¹ Apart from the Thatch Harvesting Programme, the GGHNP manages a number of other poverty alleviation projects such as the Expanded Public Works Programme, the Working for Water Programme, the Working on Wetlands Programme and the Working on Fire Programme. These programmes have generated a number of permanent positions and have also created hundreds of temporary employment opportunities. Other programmes offered at the GGHNP include the Teacher Development Programme, the Kids in Parks Programme, Environmental Education and Awareness Programmes, the Imbewu Programme, and the Eco-Schools Programme; all of which aim to provide environmental education and to strengthen relations with the local community (SANParks, 2013).

2012). Within its seasonal curriculum, the sustainable impact of the socio-economic benefits accruing from this programme – both for the direct beneficiaries and the broader community - had not yet been evaluated and thus formed the focal point of this study. SANParks too expressed the need for this programme to be evaluated in order to ultimately strengthen its potential impact. More specifically, this study set out to explore and answer the following seven interrelated research questions:

- a) To what extent has the thatch harvesting programme at the GGHNP benefited the communities bordering the park?
- b) What evidence is there to indicate that the thatch harvesting programme has improved the community's experience of well-being?
- c) To what extent and in what ways does this programme benefit the most vulnerable and poorest section of the community?
- d) What are the multiplier effects (if any) stemming from the programme?
- e) What obstacles has the thatch harvesting programme experienced since being launched?
- f) What additional interventions are needed to strengthen and maximise the impact of the said programme in order for it to effectively enhance the well-being of those within the target community?
- g) To what extent has this programme impacted the SANParks constituency and the park's conservation mission?

1.3 Research aims and objectives

Essentially, the broad aim of this research venture was to assess how the thatch harvesting programme at the GGHNP had contributed to human well-being within the park's neighboring communities, with specific objectives targeting the following issues:

- a) Gauging to what extent this programme has contributed to the well-being of the programme's direct beneficiaries²;

²It is important to note here that the term 'direct beneficiaries' also includes their households, as their household members are equally dependent on the income derived from participating in the programme.

- b) Identifying and assessing second³ and possible third order impacts of the programme in the neighboring communities and beyond;
- c) Identifying the strengths, weaknesses, opportunities and potential threats faced by the thatch harvesting programme;
- d) Devising possible guidelines that would aid in strengthening the socio-economic impact of the thatch harvesting programme.

1.4 Value of this study

In a poverty stricken district such as the TMDM, efforts to align poverty alleviation with SANParks conservation policy have become paramount. In line with this policy, the GGHNP has launched several integrated conservation development programmes, one of them being the thatch harvesting programme. Subsequently, the outcome of this study was to provide SANParks with an updated assessment of the thatch harvesting programme held at the GGHNP wherein its impact on the well-being of all relevant stakeholders was pertinently explored. Based on the findings presented within this study, potential opportunities were also discussed. These recommendations may serve to further strengthen and improve the impact of this programme for those benefitting and which may thus augment SANParks objectives towards enhancing park constituency. Moreover, these findings may also aid in bolstering the potential development of small enterprises which may thus serve to empower both the direct beneficiaries as well as the neighboring communities in which they reside.

1.5 Breakdown of the chapters to follow

Having disseminated the background, purpose and value of this study, Chapter 2 will encompass a theoretical background in which the interface between ecosystem services and that of human well-being is explored and pertinently addressed. Chapter 3 discusses the methodology that was used to conduct the study, whilst

³ The first order impact evaluation focused on those directly benefitting from the intervention such as immediate beneficiaries and their households, as well as the park itself. The second order impact assessment looked at the impact of this initiative on the broader community, and the third order impacts were those beneficiaries that do not include the first two categories, such as the businesses sector.

Chapter 4 focuses on the development of conservation policy, with specific attention being paid to South Africa's resource use policy that has subsequently come to embrace a philosophy of community engagement and integration. The results and findings of the study are discussed in Chapter 5, followed by the conclusion and recommendations in Chapter 6.

CHAPTER 2

LINKING HUMAN WELL-BEING WITH ECOSYSTEM SERVICES

About this chapter

This chapter serves to unravel the multifarious relationship between human well-being and the Earth's biosphere. It begins with defining human well-being in terms of its subjective and objective indicators, and goes on to discuss the numerous values that we place on these indicators within both an internal and environmental context. The perception of well-being relative to one's capabilities and needs is then conceptualised and melded with the various forms of capital required to meet this complex array of facets. Following this, these assumptions are further intertwined within the Millennium Ecosystem Assessment which proposes an operational methodology that is later utilised within this study.

2.1 Introduction

'Biodiversity' is seen and valued through a diverse and wide range of actors, and the meanings and values given to biodiversity can often have acute and multifaceted implications (Blaikie & Jeanrenaud, 2000). Approaches aimed towards increasing the well-being of individuals through environmental management can present numerous lasting and cost-effective resolutions that can frequently be collaborated with the empowerment of women, education, and enhanced governance. In recent years, the need for more efficient management of ecosystem services, coincided with the needs and values of neighboring communities, has become increasingly acknowledged by numerous governments as a means for improving the quality of life and well-being of their respective populations (MEA, 2003).

However, whilst policies have come to integrate human well-being with biodiversity conservation, there are still some formidable obstacles, both internationally as well

as locally, that need to be addressed. Internationally, many states continue to struggle with the implementation of policies, leading to a number of contradictions and inconsistencies in the development and practice of biodiversity conservation. At a local level, many individuals' capabilities continue to be thwarted by these inconsistencies, and more often than not the values and human needs relative to specific populations have been overlooked (Blaikie & Jeanrenaud, 2000). The *Capabilities Approach*, developed by both Amartya Sen and Martha Nussbaum, has become increasingly influential in this regard. This approach seeks to help policy-makers understand the contexts within human life, thus offering them the opportunity to construct intervention policies that are meaningful and that will empower and show respect for people, rather than simply mirroring the predilections of the intellectual elites (Nussbaum, 2011).

Consequently, when undertaking practical work be it constitution building, policy making, needs assessments, and/or the participatory monitoring or the collection of data, it is essential that one construct a list of dimensions pertaining to the subject of interest. Taking this into consideration, this chapter serves to highlight some key elements pertinent in determining human well-being, and thus draws upon the minds of a number of influential theorists within the field of human development. Following this, an integrative analysis of the various dimensions relative to the concept of human well-being and its complex relationship with that of ecosystem services will be discussed in order to create a full-bodied perspective that is later applied to this study.

2.2 An integrative definition of human well-being

It is widely agreed that wealth does not necessarily equate with happiness (Wilson, 2012; Costanza, Fisher, Ali, Beer, Bond, Boumans, Danigelis, Dickinson, Elliot, Farley, Gayer, Glenn, Hudspeth, Mahoney, McCahill, McIntosh, Reed, Rizvi, Rizzo, Simpatico & Snapp, 2007). When assessing the conditions under which people live, or when policies are proposed in an attempt to improve the well-being of a populace, assumptions are created according to the typical characteristics of a good life, in other words what makes people feel happy and content. Many tactics have been

developed in order to analyse these characteristics. However, there is still much conjecture as to the elements pertaining to human well-being, as many of the underlying assumptions have seldom been extensively analysed and verified (Costanza *et al.*, 2007).

Drawing from this, it is essential that one establishes key questions pertaining to happiness and human well-being. For instance, what is happiness? What constitutes happiness? How can happiness be measured? What fundamentally influences how happy people are? For many years researchers have sought to understand human experience and the concept of happiness and human well-being in order to develop ways to measure and improve its feasibility. Indeed, there are various disciplines including economics, medicine, environmental science, psychology and sociology, which have frequently used the term 'quality of life' to measure this human experience (Wright, 2012). However, as is evident in many literature pieces, there is a constant discrepancy in the search for a conceptual definition for quality of life. Nonetheless, it is generally agreed that a person's sense of well-being can be tangibly attached to that of his or her happiness or unhappiness, or satisfaction or dissatisfaction with life, thus providing some insight into the concept termed 'quality of life' (Wish, 1986).

Therefore, for the purpose of this study the term 'quality of life' is regarded as an epitome used to measure the degree to which subjective and objective human needs and values are met, as well as the level of satisfaction or dissatisfaction in various areas of life as experienced and perceived by both individuals as well as groups (Costanza *et al.*, 2007). That said, in order to fully grasp this concept, the following section will serve to further evaluate and dissect this matter in detail.

2.2.1 Subjective and objective (social) indicators of quality of life

It is essential to unravel the meaning of quality of life due to its remarkable potential pertaining to improving lifestyle objectives and major policy. Most recently, research on quality of life has been divided into two essential methodologies of measurement, namely the 'objective' or social indicators of well-being and subjective well-being (Costanza *et al.*, 2007; Diener & Suh, 1997). The first of these methodologies -

objective well-being (OWB) - makes use of both economic, social, and health indicators, as well as quantifiable and observable variables such as life expectancy, literacy levels, and economic production, all of which serve to reflect the degree to which human needs have been met and which are deemed essential for a good life. These indicators are contrived through the use of indices such as the Gross Domestic Product (GDP) per capita as well as the Human Development Index (HDI) as proposed by the United Nations (Costanza *et al.*, 2007). These indices in turn allow researchers to gather standardised data that is not susceptible to local adaption or social comparison. In other words, this methodology serves to minimise the degree to which quality of life is misconstrued by an individual's comparison to the lives of others within both their local area and other sources beyond, such as the media. For instance, a person's quality of life cannot simply be considered high because others within their vicinity are miserable.

However, whilst these measurements may provide researchers with an indication of the extent to which the social and physical needs are being met, they are limited and do not encompass other elements essential to quality of life such as psychological security and life satisfaction (Costanza *et al.*, 2007). In addition to this, indices such as economic progress do not necessarily guarantee that other important characteristics such as crime are absent. Rather, its indicators are limited to factors such as the augmentation of a healthy environment or increased leisure time. Thus, by analysing the quality of life of a society solely in terms of economic, social and health indicators, it clearly depreciates fundamental elements such as self-development, love, and acquiring meaning in life (Diener & Suh, 1997).

Taking this into consideration, in order to successfully measure quality of life it is necessary to also consider individual perceptions of well-being, which now leads us to the second measurement, namely subjective well-being (SWB). This measurement pertinently focuses on individually, and thus subjective, reported levels of contentment, happiness, fulfilment, pleasure and other such forms of human experience and cognitive satisfaction (Costanza *et al.*, 2007; Diener & Suh, 1997). This indicator is also grounded on the supposition that in order for researchers to understand the individuals' or groups empirical quality of life, it is necessary to diametrically investigate how they feel about life within the perspective of their own

standards and values (Diener & Suh, 1997). Subsequently, SWB consists of three interconnected parts namely *pleasant affect*, *unpleasant affect*, and *life satisfaction*. Affect pertains to those moods, emotions, attitudes, and beliefs which individuals can perceive as being either pleasant or unpleasant, whilst life satisfaction refers to an individuals' cognitive perception of satisfaction with their lives according to the values that they attach to things. All three of these components represent the various facets within people's valuation and judgement of their circumstances and lives. This method of assessing SWB not only considers the absence of negative experiences, as was traditional in the clinical models of mental health; but also evaluates the presence of positive affects in areas such as leisure and work. Conversely, whilst one domain in an individual's or group's life may be high, perceptions of SWB in the others might be low. Thus, it is essential that all three of these components be separately assessed in order to gain a greater understanding of the overall SWB (Diener & Suh, 1997).

However, there are some methodological flaws that make it difficult to demarcate preference adaption as well as eliminate an individuals' comparison bias of perceived well-being relative to their peer groups, which in turn may hinder the ability to ascertain absolute terms which are needed in order to record true quality of life (Costanza *et al.*, 2007). Additionally, the choices that people make may not necessarily make them happy, and may also conflict with normative ideals. In other words, people may often perceive that by gaining something they want or value this will lead to happiness. Indeed, people may also desire something that is not necessarily good for them. This indicates that individually perceived happiness may not be an exact predictor of whether or not these perceptions will enhance their SWB (Diener & Suh, 1997).

Drawing from this, in order for researchers to gain a grounded perspective on that which is quality of life, it is necessary to combine these various elements, consequently allowing researchers to scientifically and pertinently address the complexities of human endeavor and human life experience (Costanza *et al.*, 2007; Diener & Suh, 1997; Argyle, 2001). The overall quality of life can then be determined by both the degree to which groups or individuals are content in their life experiences as well as the level to which their needs are being met. By incorporating both

'objective' and 'subjective' variables, it becomes possible to gain a clearer picture of the true meaning of quality of life on both temporal and multiple spatial scales (Costanza *et al.*, 2007).

As proposed by Costanza *et al.* (2007) in their book *Human Needs and Quality of Life*, by assimilating both these variables quality of life can thus be defined as the degree to which objective human needs are being met relative to individual or group experience pertaining to their SWB. Human needs are essentially the basic needs for reproduction, subsistence, affection, security, identity and so forth. SWB is measured through the responses of either individuals or groups regarding their values and perceptions pertaining to life satisfaction, welfare, happiness and utility. The correlation between perceived happiness and the above-mentioned, express that human needs and values may largely depend on elements such as the cultural context, temperament, education, information, mental capacity and other such factors, in a somewhat multifarious way. Furthermore, this link can be pertinently affected by the credence and value to which individuals, cultures and groups give to these human needs comparative to others (Costanza *et al.*, 2007), and which therefore also merits further discussion.

2.2.2 Values

According to Wright (2012), the term 'values' refers to an individuals' understanding of what it means to 'live well'. The principles pertaining to both human and environmental values remain steadfast. However, the weight that these values have in our lives may change over time, as do our perceptions.

2.2.2.1 Human values

The concept of human well-being can be identified as the ways in which different actor's appropriate different values towards something (Blaikie & Jeanrenaud, 2000). This means that values play a fundamental role in a system of beliefs and attitudes, through which both individuals and groups analyse the world around them. Bengston

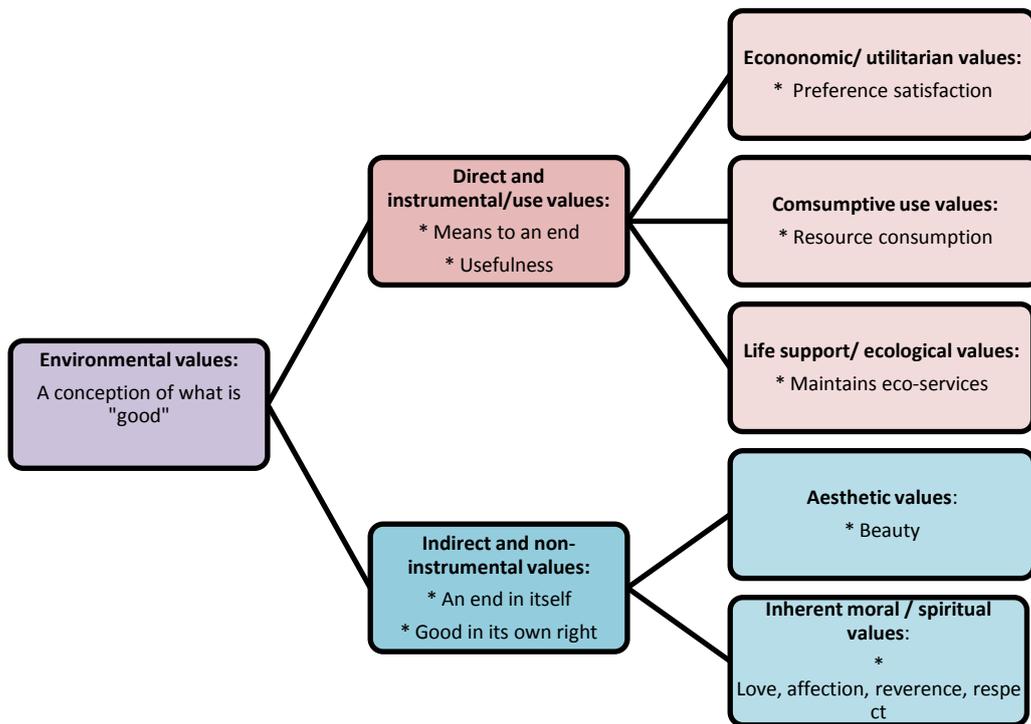
(2000) stated that an *attitude* is a learned predilection toward an object that can be either unfavorable or favorable. *Beliefs* mirror what individuals view as true about an object, and which is often a reason for adopting a particular attitude towards an object.

Both beliefs and attitudes may change subject to new information, life experience, persuasion, and the development of other learning opportunities. However, values are inherently central to a person's system of beliefs and attitudes, and tend to be more constant and impervious to change. These elements also serve to create a robust system of different beliefs, attitudes and values found within a community. For this reason, simply 'educating the public' about services such as protected areas management will doubtfully be enough to produce the desired effect (Bengston, 2000). This means that altering the individuals or groups beliefs may not necessarily deal with their overall attitude about an object or practice. Subsequently, rather than educating the public, researchers should instead listen to and work collaboratively with the public and other stakeholder groups involved. According to Bengston (2000), this is much more likely to be effective.

2.2.2.2 Environmental values

Based on the aforementioned assumptions, it is clear then that the values of people in society determine *what* is good and to what *extent* something is good. Relative to the value of the environment, this resource serves to not only provide utilities, but is also valued for its culturally meaningful, life supporting, and scenic qualities as well (Bengston, 2000). Subsequently, the majority of individuals value the environment, both non-instrumentally in ways that go outside their desire to reach self-interested goals, and instrumentally for the benefits that they obtain from the lands. Over the years, environmental ethicists have become increasingly interested in the credence and attributes given to environmental values, and how these values have contributed to human well-being and perceived needs (Haider & Jax, 2007). Conceptualising the thoughts of Bengston (2000), Blaikie and Jeanrenaud (2000), Figure 2.1 serves to illustrate the various elements pertaining to environmental values

Figure 2.1 Environmental value system



(Bengston, 2000; Blaikie & Jeanrenaud, 2000)

- *Direct and instrumental/use values*

Nature is often valued for its usefulness: it satisfies a predilection, provides a function, and meets various human needs (Bengston, 2000). These values are assigned to something because of the satisfaction and enjoyment that can be obtained through the use of biological resources. When an object is utilised as a method to satisfy a need or as a means to achieve an end, either the relation or entity can then be classified as an instrumental value. Thus, through the *economic/utilitarian* perception of the value of nature, the efficacy of the environment is articulated through individual preferences or an accumulation of preferences (Blaikie & Jeanrenaud, 2000; Bengston, 2000). In addition to this, the consumption of environmental resources refers to *consumptive use values* which are the values placed on those resources that are consumed directly without having passed through a market. Consumptive use values are especially significant to the rural populace in developing countries where these biological resources are used and collected as a source of subsistence. Pressures to conserve biodiversity have consequently resulted in reduced access to these resources, and for the poor and politically weak

this has typically impacted them severely (Blaikie & Jeanrenaud, 2000). For *life support/ecological values*, the functions and services of the environment are essential because the well-being of humans greatly depends on them. This value is unlike economic value in that life support values cannot be adequately evaluated by an individual's willingness to pay for environmental services and functions. Consequently, the cumulative willingness to recompense life-sustaining environmental services cannot be meaningfully measured for their importance, as these benefits subsist whether individuals are conscious of them or not (Bengston, 2000).

Because different values are attributed by different actors to various aspects of biodiversity, and that they also yield from different functional benefits; identifying the different values of biodiversity is a complex task because of the need to determine the benefits, values, uses, definitions of biodiversity, and the level of realisation within the population in question (Blaikie & Jeanrenaud, 2000).

- *Indirect and non-instrumental values*

Non-instrumental values are characterised by what is good in its own right. For example, an object can be 'good-in-itself', thus making it intrinsically valuable to individuals. According to Bengston (2000) an *aesthetic value* can be characterised as a non-instrumental value because the merit lies within the environment's beauty which in turn conceptualises what is 'good'. Aesthetic values therefore coincide with nature's value as an entity of perception and knowledge, which is one of the reasons that some areas have become protected and developed into national parks and sanctuaries.

Lastly, a *moral/spiritual value* is also considered a non-instrumental value in that individuals may value an entity morally when they look upon it with affection, love, respect and reverence (Bengston, 2000). Spiritual values can also be seen as an attachment orientation towards nature's heritage value and sense of belonging.

Drawing from this, both human values and environmental values clearly play a fundamental role in creating a deeper understanding of how humans both

instrumentally and non-instrumentally perceive and give credence to the value of life and nature. They are therefore, not unconditionally and collectively applicable as is the case in moral/spiritual value, but depend largely on the interconnectedness between humans and nature (Blaikie & Jeanrenaud, 2000). Thus, these perceived values, be it either individual or in a group, are dependent on the values and meanings that people attach to their life experience. These values can in turn be utilised in determining what constitutes towards improving the needs of individuals and groups (Bengston, 2000).

Drawing from this, in order to scrupulously understand the level of human well-being experienced by both individuals and groups, scientists require knowledge of the conditions that influence their interpretation of their lives, and subsequently the value that they place on these perceptions (Diener & Suh, 1997). These conditions can also be directly associated with an individual's capability to achieve that which they value being or doing, and which can be analysed in terms of the *Capabilities Approach* as proposed by Amartya Sen and Martha Nussbaum.

2.2.3 The Capabilities Approach

The term 'capability' consigns to an individual's or group's freedom to endorse or attain valuable functionings (Alkire, 2002). In order for this to be achieved positive resources required to develop these capabilities needs to be made accessible (Alkire, 2005). However, before determining what resources need be made available it is important to first comprehend the various facets pertaining to a person's capabilities. This concept has, during the last two decades, become increasingly significant in the forces driving sustainable human development (Nussbaum, 2007). During this time various postulations have lead to the development and amplification of the *Human Development Approach*, also recognised as the *Capabilities Approach*. This supposition was first put forward by the philosopher and economist Amartya Sen and has, since the 1990's; become increasingly utilised by numerous international agencies focused on human welfare, and which has also become an essential component employed within the Human Development Reports of the United Nations Development Programme (Fukuda-Parr, 2003; Alkire, 2002;

Robeyns, 2006). Expanding on this, and parallel to Sen's initial formulation of the Capabilities Approach, is the refined works developed and posited by Martha Nussbaum, wherein she explores a more definite and normative list of capabilities which she proposes can be formally used and implemented, within context, throughout all nations (Alkire, 2005). Subsequently, the following section aims to briefly unpack the works of these two prominent theorists and serves to examine the importance of determining ones capability in order to sustain and augment those dimensions relative to human well-being.

2.2.3.1 Amartya Sen (1933 -)

Amartya Sen posited that in order for capabilities to be accomplished, and justice to be guaranteed; every individual deserves the opportunity and freedom to actualise and achieve a 'good life' (Anand, Hunter & Smith, 2005; Sen, 2009). To accomplish this, freedom of choice and access to primary goods needs to be made available. This means that individuals should be free to determine what they want or value and to ultimately be able to actually choose what they want. Sen considered these two elements to be both intrinsically and instrumentally valuable to fulfilling human needs, and essentially one's quality of life. Therefore, how free individuals are to choose from a variety of commodities depends on how effectively their subjective sense of well-being will improve (Fukuda-Parr, 2003).

Furthermore, Sen portended that development involves expanding the extent to which people can be or do things, such as to be knowledgeable, well-nourished and healthy, and to be able to take part in community life (Sen, 2005). This means that development is essentially about removing the impediments that restricts a person in life, which include elements such as ill health, lack of political and civil freedoms, illiteracy, and the lack of access to essential resources. Subsequently, Sen proposed that freedom endowed is not considered an end in its own right but rather a positive step towards productively impacting human development (Fukuda-Parr, 2003).

According to Sen (2005), well-being and quality of life thus encompasses a belief that people are free to live lives they believe to be valuable. However, merely being free to make a choice may not be adequate enough. It is also vital to have the power

to exercise a choice. This means that the adjacent association between freedom and power to choose can be mirrored within the capabilities that an individual or group is able to wield, and which therefore exceeds simple economic notions (Sen, 2005). By asserting that there is an association between well-being and capabilities, Sen posited that through promoting capabilities, social change and economic processes may be ultimately advanced. For instance, with improved education comes improved rational thought and the ability to interact in sophisticated discussions and attain innovative insights, all of which enable individuals to expand their creativity and ideas for themselves.

There is also no question that well-being is experienced and observed diversely amongst individuals. For instance, collective action amongst underprivileged people residing in an interwoven community is paramount to their perception of well-being, whereas collective action as a capability for an affluent group is considered redundant as they benefit from access to a diverse number of primary goods. Thus, the values that people attached to objects are subject to both social and economical influences, be it directly or indirectly (Sen, 2005). That being said, for the purpose of operational methodologies it is important that one is able to conceptualise and categorise the various capabilities pertaining to human well-being, and whilst Sen's approach is primarily concerned with identifying capability for the purposes of a quality-of-life assessment, his point of view does not propose an explicit account of basic justice and therefore does not provide a precise catalogue of capabilities (Nussbaum, 2011; Robeyns, 2005). In response to this, and in an effort to extend Sen's approach towards a more methodological outlook, Martha Nussbaum proposed a number of key categories that may be normatively utilised to determine human capability.

2.2.3.2 Martha Nussbaum (1947 -)

Drawing from the works of Amartya Sen, the philosopher Martha Nussbaum further extenuated the Capabilities Approach by developing some key elements relative to human capability. She postulated that justice should be identified in terms of an individual's or group's capability to be and do different things (Holland, 2008).

Therefore, in order to identify the extent to which this form of justice is being carried out, it is important to discern these capabilities in measurable terms. By making use of a human rights approach, Nussbaum went on to develop a list of ten 'Central Human Capabilities', comprising of bodily integrity, the development and expression of senses, imagination and thought, bodily health, life, practical reason, emotional health, affiliation (both political and personal), play, control over one's environment (both social and material), and lastly, the ability to have relationships with other species and the world of nature (Nussbaum, 2007; Robeyns, 2005). Drawing from this, the following list provides a more detailed catalogue of these capabilities (Nussbaum, 2007; Holland, 2008):

1. *Bodily integrity.* An individual should be able to move freely from one place to another, have occasion for sexual satisfaction, have choices on the subject of reproduction, and have security against assault, including both domestic violence and sexual assault.
2. *Sense, imagination and thought.* People have the right to be able to use their imagination, their thought, their senses and their ability to reason. They must be able to do these things in an informed and cultivated way which can only be developed through adequate education and training. Individuals must also be able to experience and produce works and happenings through their own choice via the use of thought and imagination. The ability of people to use their own minds is essential to the notion of freedom of expression, both artistically and politically, as well as the freedom to exercise their religious beliefs. This also leads to people being able to enjoy pleasurable experiences rather than non-beneficial pain.
3. *Bodily health.* This element portends towards people being able to have quality health, including having access to adequate shelter, nourishment and reproductive health care.
4. *Life.* Rather than dying prematurely, or living a life not worth living, individuals have the right to be able to live a life of normal length.
5. *Practical reason.* Essentially this entails the ability of people to develop perceptions of what is good, and to reflect critically about the development of their lives.

6. *Emotional health.* Here individuals have the right to be able to attach to people and things outside of themselves, to return affection to those who love and care for them, and to grieve for the loss of them. An individual's emotional development should not be impaired by anxiety and fear, but should rather be characteristic of experiences such as longing, loving, grieving, justified anger and gratitude. Consequently, supporting this form of human association is crucial in developing emotional health.
7. *Affiliation.*
 - a. People should be able to have, on a social basis, the right to non-humiliation and self-respect. Thus, individuals should be regarded as dignified human beings whose worth is equivalent to any other. This can only be achieved through non-discrimination relative to sexual orientation, religion, sex, race, caste, national origin and ethnicity.
 - b. Humans should also be able to engage in numerous types of social interaction, be able to live with others, be able to envision the circumstance of another, and acknowledge and display concern for other people as well.
8. *Play.* This is the ability of people to play, laugh and take pleasure in recreational activities.
9. *Control over one's environment.*
 - a. *Materialistically.* This element portends to the ability of people to hold and have rights to property on a basis that is equal to other individuals. Therefore, they must have the right to, on an equal basis to others; be able to seek employment and be liberated from unjustifiable search and seizure. Within the workplace, people must also have the ability to perform as human beings, be able to develop meaningful associations of reciprocated recognition with other employees, and to exercise practical reasoning.
 - b. *Politically.* Individuals should be able to participate efficiently in the political options that preside over their lives. Individuals should also have the right to participate politically in the protection of freedom of speech and association.
10. *Relationships with other species and the world of nature.* This element signifies the ability of people to live with relation to and concern for plants, animals and the entirety of nature.

It is important to note that the above-mentioned elements cannot, without the risk of distortion, be valued separately. Rather, the Capabilities Approach is resolutely pluralistic in that the credence given to capability achievements essentially varies both in quality and quantity to different people (Nussbaum, 2011).

Furthermore, according to Nussbaum (2007), generating capabilities requires institutional and material support, as well as practical implementation from governments. A critical element pertaining to the development of human rights lies in producing societies in which all children grow up with a reasonably good set of opportunities, and wherein their need for health care, education, political participation, bodily integrity, practical reason and choice are fulfilled. In that same breath, it is also fundamentally important that the world develops to a point where people treat non-human animals affably as well as progress in the protection of their habitats (Nussbaum, 2007). It is therefore necessary that governments be required to ensure that ecological conditions remain operational and are not reduced to a point at which it can no longer provide those experiences and resources essential to enabling individuals or groups in accomplishing a capabilities threshold level and ultimately an increased quality of life (Nussbaum, 2007; Holland, 2008).

With this in mind, policy must conscientiously serve to generate prospective opportunities to support these various human capabilities, whilst also taking into consideration the diverse number of ways that any distinct need can be met and valued (Costanza *et al.*, 2007). One way of representing these opportunities is through identifying the different forms of capital such as built, social, human and natural capital. In the spirit of linking human well-being with ecosystem services, the following examples offered will also pertinently address how these forms of capital, which also form part of meeting various human needs and capabilities; can be directly linked to the role that conservation may play in fulfilling them.

2.3 Capital and opportunities

There are five types of capital that have been distinguished through policy and culture that are used to provide opportunities. The first, *human capital*; can be defined as the embodiment of information, knowledge, skills, experience and

individual agency for material production (Throsby, 1999; MEA, 2003; Fukuda-Parr, 2003). Values form a fundamental part of human capital in that every individual has values that determine what they choose to do with their time, their income, and most importantly what they choose to do in their lives. Leadership is also another element of human capital which can be fostered through leadership opportunities offered to individuals. This can be achieved through education, monitoring and skills development (Costanza *et al.*, 2007). According to Flora (2000), successful development of human capital for those communities surrounding protected areas would be characterised by improved communication and networks; increased responsibility, adaptability and initiative; augmented use of skills, abilities and knowledge of the local people; as well as a healthy ecosystem which offers numerous common benefits and vital economies.

The second element is that of *natural capital* which can be defined as those goods and services supplied by ecosystems that are both renewable and non-renewable, and which include those ecological practices that regulate their use and existence (Throsby, 1999; Costanza *et al.*, 2007). Natural capital plays a fundamental role in determining the well-being of both individuals as well as groups, in that it provides a number of essential elements such as air quality, the reduction of greenhouse gases, water quality, and quality of soil and landscapes, but to name a few (MEA, 2003; Haider & Jax, 2007). For instance, being able to enjoy good health and sufficient nourishment necessitates that ecological services be able to support and sustain the supply of water, soil and atmospheric temperature that facilitate in the absorption of human generated waste and in the production of agricultural resources. In addition to this, ecological services play a fundamental role in providing the necessary resources required to live a life of normal length. This is accomplished through the use of various plant species to create medicines to fight against diseases, gaining access to freshwater, having a nutritious food supply, and the regulation of threatening human diseases (Holland, 2008). Thus, natural capital impacts all communities, most especially those surrounding protected areas wherein healthy and sustainable ecosystems with numerous community benefits are essential to their well-being (MEA, 2003; Flora, 2000).

Built capital is viewed as those produced goods such as equipment, tools and buildings (Costanza *et al.*, 2007). An example of this in protected areas would be the water systems, visitor centres, roads, trucks, computers and sewer systems. For those communities surrounding these areas it also means new houses and schools – all of which are essential elements that will in turn contribute to other forms of capital within these communities (Costanza *et al.*, 2007). In this way, protected areas play a fundamental role in that they can provide access to important resources, access to training, and can also help to create jobs. This also encourages business and entrepreneur efficiency and diversity, both of which are essential to the growing tourism industry and other forms of revenue (Flora, 2000).

Social capital pertains to those norms and networks that serve to assimilate cooperative action (Costanza *et al.*, 2007). In other words, social capital includes developing mutual trust which can be established when different organisations and individuals are willing to both give and receive. Consequently, a collective identity can emerge through reciprocity, mutual trust and participation in groups; which in turn provides a sense of a shared expectation as well as a deeper understanding of how the future of both resources and people are decidedly interconnected. In addition to this, social capital such as improved community responsibility, initiative, and adaptability are also considered essential to the development and maintenance of social structures such as protected areas. This involves expanding upon alternative methods in response to constant change, wherein responsible and adaptable communities should continue to search for alternative approaches to reaching their goals and aim to find different ways to combine the resources that are available (Flora, 2000).

Lastly, *cultural capital* is demonstrated through belief systems and activities via the expression of collective or group aspects relative to their behavior. The value of culture can be seen in its contribution to shared elements of human experience. For instance, a heritage site may serve to symbolise something of the customs or history that binds a society or community together. Also, a shared language supplies people with a way to transmit and represent these cultural messages. Thus, cultural capital can be viewed as the primary factor contributing to cultural value. Cultural capital can be both tangible, in the form of buildings, artworks, locations, paintings and other

objects; and intangible, which comprises of a set of traditions, values, beliefs, ideas and practices which aid in identifying and binding a particular group of individuals together. Moreover, these intangible cultural values also form a fundamental part in the production of tangible and cultural goods (Throsby, 1999).

As many social structures such as protected areas are often perceived as being the source for decreased business efficiency, increased poverty, decreased community resident assets, and decreased business diversity (Flora, 2000), it is thus essential that protected areas become involved in the development of these capitals for their surrounding communities. Subsequently, the ability of protected areas to augment the capability and capacity of individuals to gratify their basic human needs can only be obtained through the opportunities presented in these forms of capital (Costanza *et al.*, 2007).

2.4 Synthesising capabilities and needs with capital

To put into perspective the elements discussed thus far, Table 2.1 illustrated below provides a list of needs/capabilities which offers an integrated overview of Nussbaum's *Central Human Capabilities* (Nussbaum, 2007) along with the works of Costanza *et al.* (2007) in terms of *Human Needs and Quality of Life*. This list primarily follows the works of Nussbaum. However, a few more detailed needs addressed by Costanza *et al.* (2007) have also been incorporated, such as the need for human beings to have identity, security and the need for spirituality in their lives. The incorporation of these elements is intended to further broaden those functions essential to understanding the meaning of quality of life, and more specifically individual and group perceptions of what is needed in order to attain a subjective and objective sense of well-being. A description of the direct satisfiers pertaining to these needs/capabilities, along with the capital needed to fulfil these needs, have also been included within this table.

Table 2.1 Catalogue of human needs/capabilities and capital

Human needs/capabilities	Descriptors (direct satisfiers)	Types of inputs needed
Bodily integrity	Freedom to move from one place to another.	Human capital
	Choice in reproduction and childbearing.	Human capital
	Freedom of choice regarding sexual expression and marriage.	Human capital
	Security against sexual and domestic assault.	Social capital
Security	Imposed and regulated rules of conduct.	Social capital
	Care for the sick and elderly.	Built capital
	Security of subsistence in the future.	Natural capital Built capital
Sense, imagination, thought & understanding	Access to information.	Human capital
	Rational thought and intuition.	Social capital
Bodily health	Shelter, vital ecological services (clean water and air, etc.), rest, nourishment and health care.	Built capital Natural capital Human capital Social capital
Life	Live a life of normal length.	Built capital
	To have meaningful lives.	Social capital Human capital Cultural capital
Practical reason	Ability to conceptualise what is good.	Human capital
Emotional health/affection	Ability to have attachments to people and things outside themselves. To love those who care for them and to grieve at their absence.	Social capital Cultural capital

Affiliation	Respect, generosity, passion, solidarity, tolerance, dignity, equality and receptiveness.	Social capital Cultural capital
Play/leisure	Play, laugh, pleasure in recreational activities, artistic expression, inventiveness, relaxation and tranquillity.	Human capital Social capital Cultural capital
Control over one's environment/ freedom	Participation.	Social capital
	Meaningful employment.	Social capital Human capital
	Reciprocated recognition.	Social capital
	Freedom to contribute and have some influence in community, political and social life.	Human capital
	Freedom of speech and association.	Human capital
Relationships with other species and the world of nature	Maintain ecologies.	Natural capital
	Ensure subsistence in the future through effective ecosystem management and supervision.	Natural capital Built capital
Identity	Recognition, differentiation, status, sense of place and sense of belonging.	Social capital Cultural capital
Spirituality	Access to nature.	Natural capital
	Engagement in transcendent experiences.	Human capital Cultural capital
	Participate in faith of choice.	Human capital Cultural capital

As can be seen, Table 2.1 reveals the significance of the various forms of capital as complex and entirely interconnected contributors in fulfilling various human needs.

For instance, natural capital is considered a principle contributor towards subsistence needs in the form of clean water and air, and which is essential to an individuals' bodily health. However, built capital can also be considered a primary contributor toward subsistence in that it provides the materials needed to build shelter and produce food, and which is also fundamental to bodily health. In turn, social capital serves to provide people with the ability to have meaningful lives; in that participation, self-respect, and reciprocated recognition are essential foundations in the development of human capabilities. Closely overlapping is the ability of human capital to contribute towards these same needs, in that people must be able to express themselves artistically, be inventive, take pleasure in recreational activities, and participate in a faith of their choice. Likewise, cultural capital is also an essential element in the development of an individual's identity, through the establishment of one's sense of belonging. Social Capital can also be considered a fundamental contributor to this, in that mutual trust and cooperative action are necessary in creating a sense of belonging.

Put differently, these capabilities are much like the 'primary colors' of values, and the credence given to the capital required to change the shades of these colors are immeasurable. This means that there is an array of different shades that can be created from these primary colors. However, not every work of art (or community or life) uses all of these shades. But if, for instance, all red hues are missing completely from the picture, then understanding the colors would be unswervingly distorted and the picture would be incomplete. In the same way, whilst not all community actions echo every dimension, if every illustration of the dimension of affiliation (such as passion, solidarity, respect and equality) is absent then the support of human development may also be vitally distorted (Alkire, 2002).

It is clear then that capabilities and the various forms of capital are closely interlinked and consistently rely on one another to create the foundations needed to improve the quality of life and subsequently the OWB and SWB of individuals. This, coupled with an understanding of the values and credence placed on a specific community's needs, will result in a singularly unique assessment. Consideration and development of each of these dimensions is essential to improving an individual's or group's perspective of well-being. However, as one community may differ significantly from

another in their perspectives of human needs, the growth within these dimensions may vary depending on the needs of the community in question. Drawing from this, it is fundamental that one understand these capitals which will assist in establishing a community's specific human needs and values, and in turn aid in creating opportunities to meet these needs.

2.5 A synopsis of these perspectives

Drawing from the above literature, the term quality of life is both a multifaceted and complex construct that necessitates multiple approaches from diverse theoretical perspectives (Costanza *et al.*, 2007; Diener & Suh, 1997). It is thus argued that constituents such as subjective well-being (SWB), objective well-being (OWB), human needs, values, capabilities, and the supply of ecosystem services, are needed to form an integrated approach in order to understand human quality of life and how it might be obtained. Whilst these measures each have their own strengths and weaknesses, they are both conceptually and methodologically complimentary.

Thus, from this viewpoint it is essential that an assessment of the overall quality of life should consider both the extent to which each identified need, value and capability has been fulfilled as well as the credence that they have been given by the target population, both individually as well as in a group relative to its contribution towards improved human well-being (Costanza *et al.*, 2007). It is doubtful that the fulfilment of all these elements to any specified individuals or group's quality of life will be equally effective. Instead, it can be assumed that the extent to which each of these aspects adds to their quality of life varies considerably from populace to populace. Consequently, the degree to which these aspects contribute to overall quality of life must be considered through the perspectives of the individual or group relative to the influence and importance that they assign to it (Costanza *et al.*, 2007).

Similarly, for the purpose of this study it is necessary to consolidate these multifarious facets of well-being into a methodology that can be established in the context of the role that protected areas and their ecosystem services play in augmenting these various components.

2.6 Conceptualising human well-being with nature

Having defined well-being and the many complex facets closely interwoven within this concept, it is necessary to formulate and develop a framework in which these various determinants can become consistent and measurable components. Providentially, the subjective and objective indicators, needs, capabilities, and human and environmental values that contribute towards the various facets of well-being can be suffused and conceptualised within the five dimensions of human well-being, as proposed by the MEA (2003). Drawing from this, the following section provides a detailed discussion of these five dimensions of human well-being, as well as how these constituents influence and are influenced by the various ecosystem services that the Earth provides.

2.6.1 The ecosystem services contribution towards fulfilling human well-being

Biospheres provide sustenance and life to all species on Earth, and as such ecosystem services piquantly reflect the co-evolutionary dependence of humans on these biomes (MEA, 2003). This means that the progress and well-being of human beings towards that of sustainable development and meeting human needs, is fundamentally reliant upon the resources that the Earth's biosphere has to offer (MEA, 2003). Subsequently, adverse effects on the Earth's ecosystems will both directly and indirectly have a detrimental impact on the well-being of humans. However, these adverse effects do not impact all human populations evenly. Often, the human populations most vulnerable to these effects are those residing in disadvantaged communities who lack access to the resources required to sustain their basic needs (MEA, 2003). Furthermore, these poor communities often rely excessively on the resources and integrity of their local ecosystems, and as such are likely to have neither access nor the means to import other ecosystem services. As a result, the ability of these populations to improve and sustain their well-being is greatly determined by their accessibility to those ecosystem services surrounding them.

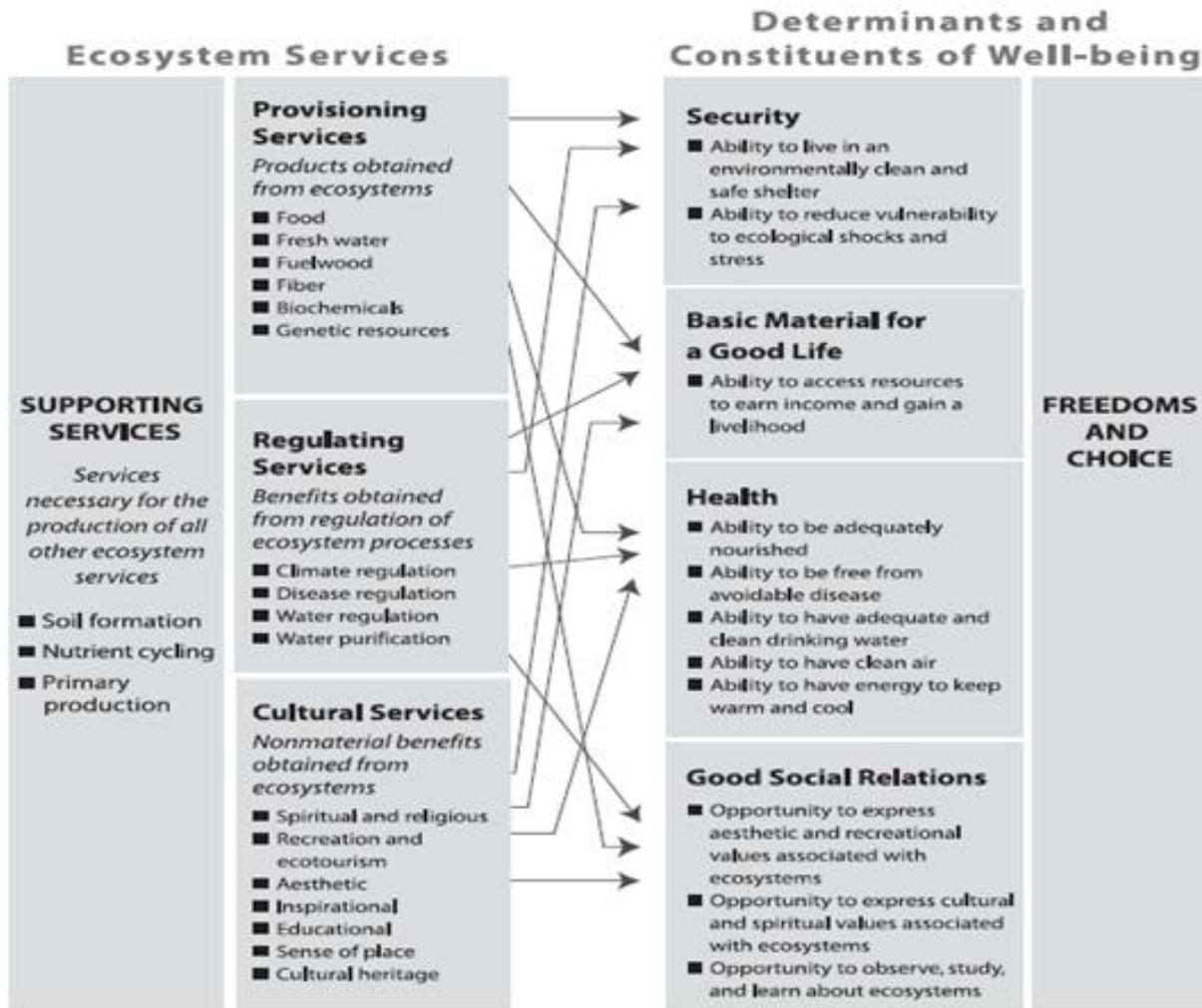
Coupled with the need to enhance and sustain human well-being is the equally important need to protect and sustain the Earth's biosphere. Both equally important and astutely interdependent, the management of ecosystem services whilst providing aid towards improving human well-being is a complex and multifarious task. In an effort to enhance and conceptualise this highly integrative management system, the MEA was launched in 2001, and was subsequently backed by collaborations between international institutions as well as numerous governments (MEA, 2003). Encompassed within this programme, a list of ecosystem services were developed in order to establish the key elements pertaining to the relationship between the environment and human well-being. According to the MEA (2003), ecosystem services are the benefits that people should be able to acquire from ecosystems in a sustainable manner.

2.6.2 Ecosystem services and human well-being: putting it into perspective

In order to illustrate the piquant co-dependence between ecosystem services and human well-being, Figure 2.2 provides an outline regarding how people may benefit from the services attained from their surrounding ecosystems, as well as the impact that these services may have on the well-being of those benefitting (MEA, 2003). These benefits comprise of those supporting services which have a direct effect on people and their well-being. These services include the *provisioning* of products gained from various ecosystems, the benefits attained from the *regulation* of these ecosystems, and lastly, the intangible and *cultural* benefits that people gain from the ecosystem. Relative to this, those services required for the production of all other ecosystem benefits, in turn, act to provide *support* to these services (Scherl, Wilson, Wild, Blockhus, Franks, McNeely & McShane, 2004).

Subsequently, any alterations in these ecosystem services will have a direct impact on human well-being in terms of providing *security*, access to *basic material for a good life*, *health*, and which will also influence both cultural and *social relations*. In turn, these determinants of human well-being both influence and are influenced by the ability of people to have access to *freedom and choice* (MEA, 2003).

Figure 2.2 Linking ecosystem services to human well-being.



(MEA, 2003)

As can be seen in Figure 2.2, four prominent ecosystem services have been identified. These services are recognised as having both an indirect and direct impact on human well-being. The first major ecosystem service offered is that of *provisioning* (MEA, 2003; Scherl *et al.*, 2004). This ecosystem service can be described as that which maintains and sustains the numerous facets relative to perceived human well-being, and which is achieved through the provision of goods and various other services. As previously illustrated in subsection 2.3, all forms of capital be it natural, built, social, cultural or human, can be pertinently linked to the provisioning services that our ecosystem yields. Therefore, it is safe to assume that a shortage of these services/forms of capital will both directly and indirectly adversely impact the livelihoods of those most vulnerable, thus compromising their

ability to improve their quality of life. It is therefore crucial that the *regulating services* provided by various ecosystems are, as far as possible, maintained and supported in a sustainable manner (MEA, 2003). Subsequently, emphasis is placed on the ecosystems' ability to stabilise both regional and local climates, provide fresh water, purify air, moderate the occurrence of droughts or floods, and finally, to regulate and balance the extent and transference of certain diseases (MEA, 2003; Scherl *et al.*, 2004)⁴. The degradation of these regulatory services will in turn negatively affect various constituents pertaining to human health and other elements of human well-being. The ecosystem also provides *cultural services* wherein scenic landscapes, rivers, lakes, trees, sacred groves and various geological formations strongly correlate with and influence several aspects pertaining to human experience in terms of education, aestheticism, culture, recreation, and spiritualism⁵ (MEA, 2003; Scherl *et al.*, 2004). Therefore, any adverse effects on this ecosystem service through the process of contamination, extinction, disruption and/or depletion, will likewise negatively impact the human experience and cultural perspective. The final function highlighted by the MEA (2003) is the *supporting services* which are those services provided that enable and sustain all three of the ecosystem services previously mentioned. Although this is an indirect ecosystem service, it is nonetheless paramount to the sustainability and maintenance of the Earth's biosphere and thus that of human life and well-being⁶ (MEA, 2003).

Already we can see the degree to which these ecosystem services impact and determine human well-being. However, some of these links are immediate, whilst others may not be as direct (MEA, 2003). For instance, reduced food production will result in an increase in the number of hungry people within vulnerable populations⁷. Before long, this will culminate to malnutrition which will in turn increase the susceptibility of these vulnerable populations to infectious diseases, as well as impair

⁴This service also closely interconnects with the capability of individuals to attain bodily health as mentioned in the Capabilities Approach (Nussbaum, 2007).

⁵ Again, this ecosystem service also strongly correlates with the dimensions of spirituality, play/leisure and sense, imagination, thought and understanding previously highlighted (Nussbaum, 2007; Costanza *et al.*, 2007), as well as the indirect and non-instrumental values posited by Bengston (2000).

⁶ This service can also be linked to a number of capabilities/needs previously highlighted, such as bodily health, life, spirituality, and relationships with other species and the world of nature (Nussbaum, 2007, Costanza *et al.*, 2007).

⁷ This also denotes a reduced capability to attain bodily health (Nussbaum, 2007).

the capabilities of these people in terms of being able to learn and concentrate⁸. Drawing from this, it is clear that the repercussions and impact of adverse ecosystem changes on human well-being are endless and cumulative, for both present and future generations.

The impact of ecosystem changes on human well-being is however not evenly distributed amongst all populations. Some populations are more vulnerable than others, and will therefore be more keenly affected by any changes in the ecosystem services. Therefore, in certain situations, what may be a readily available commodity for some may prove inaccessible to others. However, the value (attitude and beliefs) placed on this commodity is entirely dependent on the values defined by a specific populace in terms of what constitutes towards their well-being, and which may vary from one population to another. This therefore means that human well-being is wholly experiential (MEA, 2003). Due to these multifaceted and subjective perceptions, there is no single method that can be used to reliably measure human well-being across all populations. However, a basic framework of determinants that constitute towards human well-being is paramount in realising sustainable development and improved quality of life within the context of specific populations. Subsequently, a participatory poverty assessment termed the 'voices of the poor' was conducted in 1999 in which a large number of vulnerable people from 23 different countries were solicited to participate (MEA, 2003; Fisher, Patenaude, Meir, Nightingale, Rounsevell, Williams, & Woodhouse, 2013; Pereira, Queiroz, Pereira & Vicente, 2005). These individuals were asked to introspectively reflect and express their perceptions of what determines a bad and good life. These respondents put emphasis on a number of factors. However; five key dimensions were repeatedly accentuated and which cut across all the populations to varying degrees. These dimensions of well-being included access to *security*, *basic material for a good life*, *health*, *good social relations*, and lastly, *freedom and choice* (MEA, 2003).

The dimension of *security* portends to the need for a person and their possessions to be safe, the need to have access to secure resources, and the need to live in an environment that is both controllable and predictable, and wherein they are safe from

⁸This also infers a reduced capability to attain sense, imagination, thought and understanding, as well as practical reason (Nussbaum, 2007, Costanza *et al.*, 2007).

human-made and natural disasters⁹ (MEA, 2003). The term *basic material for a good life* is the dimension of well-being that includes the need to have access to goods, food, clean water and shelter at all times, the ability to attain basic household assets such as furniture and clothing, and the ability to earn an income sufficient enough to enable a secure and adequate standard of living¹⁰ (MEA, 2003). The *health* dimension of well-being as identified by the MEA (2003) refers to the ability of a person to live in a healthy physical environment wherein they are able to feel well and strong¹¹. Furthermore, according to the MEA (2003), the dimension of *good social relations* can be described as an individual's ability to freely convey their spiritual and cultural values¹², and wherein their recreational and aesthetic values, both indirect and non-instrumental, can be realised (Bengston, 2000; Blaikie & Jeanrenaud, 2000). This dimension also portends to the ability of people to maintain institutional associations that will help them develop and generate social capital and cohesion, and is also indicative of an individual's ability to provide for their children and help others, as well as to develop healthy family and gender relations wherein mutual respect can be achieved¹³ (MEA, 2003). Moreover, this dimension of human well-being also includes the ability of people to realise what they value being or doing, and wherein they are able to actualise the kind of life that they wish to lead¹⁴ (MEA, 2003). This means that people must be able to have control over their environment and have a variety of options to choose from¹⁵.

It is important to note that these five dimensions can both negatively and positively support one another. This means that any alterations in one dimension will likely

⁹ In terms of the Capabilities Approach, this dimension can be similarly applicable to the capability to attain security, and have relationships with other species and the world of nature (Nussbaum, 2007, Costanza *et al.*, 2007).

¹⁰This dimension also correlates with the capability to achieve bodily integrity and bodily health (Nussbaum, 2007).

¹¹ This dimension is also strongly comparative to the ability to attain good bodily health (Nussbaum, 2007).

¹² This dimension can be directly linked to spirituality (Costanza *et al.*, 2007), as well as access to cultural capital (Throsby, 1999).

¹³ Herein, a number of capabilities such as affiliation, life, emotional health/affection, and sense, imagination, thought and understanding, is also piquantly applicable. Moreover, the dimension of control over one's environment/freedom may similarly be applied here (Nussbaum, 2007, Costanza *et al.*, 2007).

¹⁴ This dimension also portends to the aforementioned SWB wherein happiness, fulfilment and contentment are essential indicators of a good quality of life (Costanza *et al.*, 2007; Diener & Suh, 1997).

¹⁵ As with the other dimensions of well-being illustrated within the MEA, Nussbaum (2007) and Costanza *et al.* (2007) elaborate on a number of facets that can also be closely correlated with this dimension, such as the ability to attain identity, play/leisure, spirituality, and to have control over one's environment/freedom.

cause changes within the other dimensions (MEA, 2003). For instance, impoverished populations that do not readily have access to health facilities are more susceptible to sickness and disease, which in turn restricts their ability to work, thus exacerbating their material poverty; all of which play a role in intensifying their experience of powerlessness and restricted *freedom and choice*. Likewise, earning an adequate income allows for people to gain access to material assets that may assist in improving physical health, facilitate in enhancing livelihoods, enable beneficial social relations, and may also provide these individuals with the ability to secure resources, subsequently enhancing their ability to have access to *freedom and choice* (MEA, 2003).

Drawing from this, it is clear that both the ecosystem services and the constituents of human well-being are directly interdependent, in that ecosystem services provide humans with the necessary resource opportunities that they need to both survive and augment their quality of life. In conjunction with this, the availability and sustainability of these ecosystem services are also largely dependent on the rate at which these resource opportunities are utilised. In terms of human well-being, the availability of these resources can profoundly affect aspects such as health, the rate of economic growth, the frequency and persistence of poverty, livelihood security and so forth (MEA, 2003). In addition to this, the ecosystem also offers human beings non-material benefits in the form of education, and recreational and spiritual services which is also piquantly linked to the development of good social relations.

Unfortunately, ecosystems are often impinged upon by excessive human activity through the need of ecosystem services such as fuel wood, food, fresh water and fibre. Indeed, the rising demands on these services have ultimately begun to influence the ecosystem through elements such as climate change both locally and globally; as well as through the increasing extent and frequency of disasters such as droughts and floods (MEA, 2003).

Consequently, the management of these supporting ecosystem services and an assessment of its capabilities have become paramount. Consideration must be given to the long-term capacity to provide ecosystem services, thus enhancing current and future contributions that the ecosystem may offer towards meeting human needs and enhancing human well-being (MEA, 2003).

2.7 Summary

Drawing from the above literature, it is clear that understanding and conceptualising the experience of human well-being is a complicated and multifarious task. Nonetheless, in order to develop a sound theoretical framework and to better discern the various facets associated with human well-being, the work of several prominent theorists were pertinently discussed and explored within this chapter. Despite variations in the perspectives of these theorists, all share a number of common threads which can be closely linked and expressed within the context of the five dimensions of well-being as posited by the MEA (2003). Herein, both internal and external environmental factors were also considered and addressed, and which served to piquantly highlight the closely interconnected relationship between ecosystem services and human well-being, and the important role that both play in enhancing the welfare and security of the other.

CHAPTER 3

METHODOLOGICAL CONSIDERATIONS

About this chapter

Drawing from the theoretical framework presented within the previous chapter, the following section serves to contextualise and identify a measurable and consistent methodology which has subsequently been applied during this study. This methodology is embedded within both quantitative and qualitative principles, and which piquantly serves to determine the impact of the thatch harvesting programme on the beneficiaries' various dimensions of human well-being. In line with this framework, the data collection mechanisms and measuring instruments are also established and employed within this chapter, and the study site is identified along with how the samples were drawn for analysis. Towards the end of this chapter, attention is also paid to the period allocated for the fieldwork, as well as the ethical considerations and limitations present within the study.

3.1 Introduction

As previously mentioned in Chapter 2, well-being portends to the fulfilment of human capabilities by satiating the needs of individuals and which can be both subjectively and objectively assessed. Moreover, the perception of well-being rotates around an individual's capability to function at their best. This includes not only physical health, but also an individual's confidence in being able to act out and fulfil important goals, to experience interest in their surroundings, and to maintain motivation and persist when faced with difficult situations. Well-being therefore portends to an individual's ability to retain and thrive within their everyday ecological environs and wherein they are able to achieve a perceived good quality of life (Ryan & Sapp, 2007). Likewise, critical factors involved in shaping the perception of well-being can be directly linked to the ability of individuals to be actively and critically involved in choices relative to

their daily lives; to be protected from maltreatment and other environmental issues, and finally, that they must be able to express their opinions freely (Harkness, 2007).

Taking these concepts of well-being into consideration, and by embedding them within the approach to this study, this chapter serves to highlight the integration of these concepts within the research design and methodology used during the assessment, as well as the consigned population and the sample sizes. Furthermore, attention will also be given towards the measuring instruments used as well as the methods of data collection, the period of fieldwork, and the ethical principles and limitations taken into consideration throughout the assessment.

3.2 Research design and methodology

The evaluation of the thatch harvesting programme in the GGHNP has served a number of functions, namely to bolster the effectiveness of the service being rendered, broaden the possibilities for formalised adaptive management thereby facilitating and stimulating co-learning amongst the relevant departments within the GGHNP; and lastly, it has aided in augmenting efficient and wise planning which as a consequence will enhance the value of this currently active programme.

As an analytical framework for the evaluation of the thatch harvesting programme, an exploratory and evaluative research design was utilised within both a quantitative and qualitative approach. Herein, an outcome analysis was applied in order to ascertain to what extent the objectives of the thatch harvesting programme have been achieved. As previously mentioned in Chapter 1, elements highlighted in the outcome analysis included assessing how successful the programme has been, what obstacles this programme has faced, the levels of satisfaction and well-being amongst the direct beneficiaries within the thatch harvesting programme, to what extent this programme has effectively reached its target population, and finally, to ascertain how this programme might be enhanced for future use.

Within this study, the development of the research design and methodology was significantly influenced by both the concept of well-being and the perceptions attached to this concept. Subsequently, the methodology for this study was

developed in analogy of the five dimensions of well-being as proposed by the MEA (2003), and which was previously discussed in detail in Chapter 2. To briefly recapitulate these dimensions, the first key component in this ecosystem assessment is that of *material* well-being wherein an individual should experience a good and secure life through prospects such as income, assets, livelihoods, shelter, clothing and access to goods. Secondly, the *health* component pertains to living in a healthy physical environment, feeling well and being strong. The third component is that of good *social relations* which includes mutual respect, good family and gender relations, social cohesion, and the ability to provide, when needed, for friends and children. The fourth component of well-being portends to that of *security* wherein secure access to natural or other resources, living in a controllable environment, and having security from natural and human-made disasters, is piquantly accentuated. The final key dimension of human well-being is *freedom and choice* in which the individuals must have control over their lives and their values or being (MEA, 2003). It is also important to reiterate here that these five dimensions may serve to either positively or negatively reinforce one another, thus changes in one may bring about changes in others. Taking this into consideration, these essential elements of well-being were pertinently and comparatively utilised and assessed throughout this study in order to gauge the degree of well-being for those stakeholders directly benefitting from the thatch harvesting programme established within the GGHNP; all of which served to address the complexities of human endeavor, human capability, and human life (MEA, 2003; Nussbaum, 2011).

For the purpose of this programme evaluation the five dimensions of human well-being were thus engaged within two independent, yet concurrently running stages: a primary stage and secondary stage. The primary stage of this evaluation involved identifying and assessing the potential benefits for the park itself as well as for those directly benefitting from the programme, and wherein the first order impact of this programme was established. As previously mentioned in Chapter 1, the concept of direct beneficiaries did not only include the actual harvesters, but also their households as well. The secondary stage of the study served to explore the potential impact of the programme on the broader community as well as the business sector.

3.3 The study site and target population

As was briefly outlined in Chapter 1, the GGHNP is situated within the TMDM located in the Phuthaditjhaba region (also known as Qwa-Qwa) of the Free State, South Africa. Of the five districts within the Free State the TMDM retains the second largest population with 736 238 recorded in 2011 (South African Institute of Race Relations, 2013). In addition to this, the average household size of those residing in the TMDM is 3.3, which is relatively similar to the national average of 3.4 (South African Institute of Race Relations, 2013). However, in terms of human well-being and socio-economic development, the TMDM is characterised as having one of the highest poverty levels in the province, with 44.3% (2013) of the population being unemployed. This in turn transfigures into an overwhelming poverty rate of 69.1% for the TMDM (2011) (South African Institute of Race Relations, 2013). This high level of unemployment has resulted in an increasing number of male labor migrating out of the district which has subsequently created a skewed gender distribution, wherein 46.5% of the households located in this district were reportedly headed by females in 2011 (Statistics South Africa, 2012). Of the population living in the TMDM, almost one third (31.9%) are under the age of 15 years (2013) (South African Institute of Race Relations, 2013). Moreover, in 2011 only 25.1% of the total TMDM population reported having attained a Grade12 education (Statistics South Africa, 2012). Taking this into consideration, these low levels of human development and poor quality of life have hamstrung this district, which has resulted in increasingly congested low levels of education and/or low literacy levels.

That said, the favorable grasslands surrounding this district have been an important source in fulfilling a number of livelihood functions as it can be used not only for grazing livestock, but also as thatching for roofs, as well as for the manufacturing of household items such as mats, hats, and brooms (Mwalukomo, 2008). However, a sizeable proportion of these resources are now protected by the GGHNP. Subsequently, rather than deny the rural community the resources that they so desperately rely on, the thatch harvesting programme at the GGHNP acts as a bridge between the people and the park, and which aims to provide support to its surrounding communities by offering thatch resources in a manner that is sustainable.

3.4 Sample size

As previously mentioned, the purpose of this study was to ascertain to what extent the thatch harvesting programme had improved the well-being of those benefitting from it. In order to understand the machinations of this programme, and subsequently its potential strengths, weaknesses, and opportunities; it was necessary to not only interview those directly benefitting, but also those directly involved in the development and running of the programme. To understand the potential second order impact of this programme on the broader community, questions regarding the perspectives of the local community were included in the interviews conducted with the beneficiaries. Furthermore, in order to discern the possible third order impact of this programme, those commercial companies involved in purchasing the thatch after harvesting were also interviewed. Consequently, three samples were drawn: one from the direct programme beneficiaries, a second from the key informants (park officials), and a third from those commercial companies who purchase the thatch immediately after harvesting.

3.4.1 Participating beneficiaries

With regards to those participating in the thatch harvesting programme, samples were drawn from the neighboring communities surrounding the GGHNP wherein a total of 34 direct beneficiaries who were granted permits by the GGHNP were interviewed through the use of a non-probability snowball sampling method. The reason for choosing this sampling method was due to the fact that a number of those beneficiaries directly involved in the programme in 2012 were extremely difficult to locate and the residential addresses of these beneficiaries' proved unreliable and/or incomplete. Subsequently, locating these beneficiaries was accomplished through the referral of one beneficiary to another.

3.4.2 Key informants

As the GGHNP management are responsible for both the development and administration of the thatch harvesting programme, those park officials directly

involved were contacted and asked to participate in a focus group session in which the machinations of this programme were comprehensively explored. This sample was subsequently obtained by means of a non-probability purposive sampling method, wherein the key informants were selected based on their involvement and responsibilities in the administration of the thatch harvesting programme. These key informants included the people and conservation manager, the conservation manager and the community liaison park official. Unfortunately, due to unforeseen circumstances the people and conservation manager as well as the conservation manager were not able to participate in the study. However, the park manager of the GGHNP was able to participate in their stead. Thus, only two park officials were present during the focus group session.

3.4.3 Benefitting commercial companies

There are a number of commercial thatching companies in South Africa. However, for the purpose of this study it was important to ascertain which of these companies purchased the thatch from those harvesting at the GGHNP. During the primary stage of this programme assessment, one of the harvesting coordinators involved in the thatch harvesting programme was able to provide the names and contact details of those companies that he transported and sold the thatch to after each harvest. Drawing from this, during the secondary stage of this study two commercial companies were identified and contacted which in turn served to ascertain possible third order impacts, and thus the potential multiplier effect of the programme within the neighboring social and economic environment. The first company interviewed was Biggarsberg Thatchers, which is situated in Ladysmith (Kwa-Zulu Natal), whilst the second company Thatch Craft is located in Howick (Kwa-Zulu Natal). Due to a limited project budget, both companies were contacted and interviewed telephonically. As a result of the decisive method used to identify these companies, a non-probability purposive sampling method was applied in this sample.

3.5 Data collection mechanisms and measuring instruments

In order to effectively conduct this research project both a desk-top and empirical component was utilised within both a quantitative and qualitative context. During the desk-top phase of this research, a theoretical basis was established (see Chapter 2) which served to ascertain the relative interface between the community and the protected ecosystems which they neighbor, and subsequently the potential opportunities that these protected ecosystems may offer towards improving the well-being and quality of life of these communities.

During the empirical phase a number of methods were utilised as part of the data gathering process. Data was collected by means of individual interviews with the beneficiaries and the commercial company representatives, as well as a focus group session that was conducted with the two park officials employed by the GGHNP. Instruments that were utilised during data collection included a semi-structured questionnaire set for the harvesters, the park officials and the representatives of the commercial companies that purchased the thatch. The semi-structured questionnaire developed for the harvesters served to assess to what extent and in what way the programme had positively contributed towards the well-being of not only the direct beneficiaries, but their household members as well. In addition to this, the questionnaire also served to ascertain the harvesters' perceptions regarding the programme as well as the GGHNP itself, the application process, in what ways they benefitted from being a part of the programme, the challenges that they had faced whilst participating in the programme, and their perceptions regarding possible solutions to these challenges. Furthermore, the questionnaire also served to identify potential social networks and established social ties between the community and the protected area (See Appendix A). Due to the anticipated low levels of literacy amongst the harvesters, a Sesotho-speaking facilitator was used to translate the English constructed questionnaire items during the interviews with the beneficiaries. This was done in order that the validity and reliability of the measuring instruments could be enhanced. All of the interviews were recorded and later re-evaluated by another Sesotho-speaking facilitator in order to determine whether there was any loss in meaning regarding the questions and responses.

Following the interviews with the harvesters, a focus group session was conducted with the two park officials at the GGHNP, who not only provided insight into the machinations of the programme, but also served to confirm and clarify some of the main issues raised by the beneficiaries. Areas outlined during the focus group session included the logistics pertaining to those responsible for the running of the programme, in-depth information regarding the selection and sustainable use of harvestable grass found in the GGHNP, the application process for direct beneficiaries, the exploration of established/potential networks, the exploration of facilities offered to direct beneficiaries, the challenges that the GGHNP has faced since the conception of the programme, and possible recommendations regarding issues revealed during the interviews with the direct beneficiaries (See Appendix C).

With regards to the two commercial companies, appropriate representatives were contacted individually and interviewed telephonically. The purpose of these interviews was not only to establish and validate the potential third order impact of this programme, but was also to gauge their level of involvement with the beneficiaries, the potential opportunities they might offer towards the development of this programme, as well as the challenges that they have faced regarding the purchase and quality of the thatch provided from the harvests at the GGHNP. The interviews with the park officials as well as those with the respective thatching companies were conducted in English, and thus no translation of the measuring items was necessary.

Analysis of the data sets was therefore conducted thematically and descriptively to create an incorporated and holistic view of the progress of the thatch harvesting programme, as well as the potential opportunities it has to offer for future beneficiaries. Specific data-sets relative to the quantitative principles within this study were analysed through the use of predictive analytics software, namely the Statistical Package for the Social Sciences (SPSS), version 21.

3.6 Period of fieldwork

During the fieldwork of this study, three visits were made to the GGHNP. Locating the direct beneficiaries that had been given permits to harvest thatch that year

(2013) proved challenging as almost no harvesting was done due to runaway fires in late July which destroyed the allotted harvesting area. This meant that the previous years' beneficiaries (2012) needed to be located. This proved difficult as getting into contact with these beneficiaries resulted in having to locate them by word of mouth and referral. Fortunately, both a park ranger and a harvesting coordinator were able to provide the location of some of the beneficiaries that had harvested at the GGHNP in 2012.

The first visit to the GGHNP took place on the 10th, 11th, and 12th of October 2013. The first day was utilised to contact the park official allocated to assist during the fieldwork, and who introduced the researcher to a harvesting coordinator located in Qwa-Qwa. This introduction was pivotal in the fieldwork of this study in that this harvesting coordinator played a fundamental role in locating a number of beneficiaries that had harvested at the GGHNP in 2012. Subsequently, with the assistance of the harvesting coordinator the following two days were used to interview 15 beneficiaries. A second visit was undertaken on the 4th and 5th of November 2013, wherein a further 19 beneficiaries were interviewed. A final visit to the GGHNP to conduct the focus group session with the key informants (parks officials) was organised and carried out on the 11th December 2013.

Finally, to complete the fieldwork of this study and to assess the possible third order impact of this programme, the previously mentioned company representatives of Biggarsberg Thatchers and Thatch Craft, were contacted and interviewed on the 15th and 16th May 2014 respectively.

3.7 Ethical considerations

Throughout this assessment careful consideration was given to ethical standards applied in research. Prior to undertaking this assessment, a research proposal was submitted and accepted by SANParks. This was done in order to gain permission and access to information regarding those both benefitting from the programme as well as those responsible for its administration, without which this study would have been impossible to complete.

Ethical considerations recognised and advocated during this analysis included the protection and respect of all those involved in the study, the application of both academic and scientific professionalism, and the demonstration of transparency and accountability.

In order to reflect this approach, a number of ethical principles were applied during all of the interviews. Prior to these interviews, complaints and enquiry procedures were clearly indicated, and the contact details of the supervisor for this study were also provided. Prospective participants were also given information regarding the nature of the assessment as well as what type of feedback they would receive upon the completion of this study. Additionally, the participants were informed that they could refuse to participate or answer specific items. This served to ensure that the participants were able to make a free and voluntary decision pertaining to their involvement in the study. The participants were also made aware that they had the right to withdraw their consent at any given time without fear of penalties for doing so.

All of this information was provided in a written form. For the beneficiaries this information was also expressed orally as it was anticipated that many of the beneficiaries interviewed would have a low level of English literacy. Permission to record the interviews was also verbally requested prior to the commencement of any interviews. With or without permission to record the interview, the questionnaires were completed anonymously by the consenting participants, subsequently protecting and safeguarding the confidentiality of these participants. It is important to note here that prior to the interviews with the commercial companies, permission to include the company's names within the analysis was requested and attained. This was necessary during the analysis when clarifying which of these companies would be willing to offer training and/or assistance to the beneficiaries.

The anonymity of the beneficiaries that participated in the interviews also served to ensure that they were not victimised by other community members or by the park for their involvement in the study. Moreover, in order to ensure the free flow of information, the importance of confidentiality was clearly articulated during the interviews with all of the participants, along with the potential limitations thereof; especially for the key officials and the commercial companies due to their lack in

numbers. Concurrently, there were no physical or psychological risks pertaining to the participants' involvement in the interviews, and this study had no environmental impact.

3.8 Limitations of the study

During the process of collecting data for this study, a few limitations became present. Owing to unforeseen circumstances, the Sesotho-speaking facilitator that was initially solicited to assist in the study was regrettably unavailable. Due to time constraints and limited finances, another Sesotho-speaking facilitator was utilised, wherein English was their third language. As a result of this, there were times during the interviews wherein certain questions and words needed clarification. This increased the risk of incorrect translation and misinterpretation of the questions being asked.

Furthermore, the Sesotho-speaking facilitator that assisted in translating during the interviews was directly involved in determining whether or not the beneficiaries would be able to harvest grass at the GGHNP in the future. Herein, concerns regarding social desirability response bias¹⁶ became apparent. Subsequently, these conditions may or may not have influenced the way in which some of the beneficiaries had responded during interviews, but which were important to take into consideration during the analysis.

¹⁶Social desirability bias is a term used to describe the inclination for respondents to answer questions in a way that they believe will be seen as favorable by others (Rovai, Baker, & Ponton, 2014).

CHAPTER 4

LOCAL COMMUNITIES AND PROTECTED AREAS: NEW DIRECTIONS IN CONSERVATION POLICY

About this chapter

The following section provides an overview of the developments within conservation policies and legal frameworks, with specific attention being paid to the closely intertwined relationship between conservation and development relative to the mitigation of the often elevated poverty levels found within communities surrounding protected areas. Following this is a discussion regarding the international conventions, decisions and frameworks that lead to the incorporation and affirmation of a more people-centred conservation approach. Finally, how this symbiotic relationship between development and conservation found its way into conservation policy in South Africa is also explored and thoroughly deliberated.

4.1 Introduction and background

Involving the local community in conservation has become intricately intertwined within international conservation policy in an attempt to foster and support sustainable development, as well as to augment attitudes and a pro-conservation behavior.

Conservation policies have however, in the past attempted to separate humans from species and places reserved for nature (DeGeorges & Reilly, 2008). This became markedly evident towards the end of World War II as conservation administration became progressively more formalised within the public sector, and which subsequently led to the development of conservation agendas in many countries, resulting in numerous Forest Departments, Game Departments and National Parks Departments being established worldwide. As a result, protected areas worldwide

began to rapidly expand their total coverage, moving from the 9214 protected areas recorded in 1962 to more than 209 000 protected areas found worldwide by 2014, and which encompasses over 32 million km² (Deguignet, Juffe-Bignoli, Harrison, MacSharry, Burgess & Kingston, 2014). However, until a short time ago the impact of this marked increase in protected areas was largely ignored, and their influence on the livelihoods of the neighboring communities was routinely overlooked (Pelser, Redelinghuys & Velelo, 2011). 'Fortress conservation', 'coercive conservation' or the 'fences and fines approach' were the conventional terms used to capture the philosophy behind the protectionist ideology attached to the conservation of protected areas (Adams & Hulme, 2001; Pelser *et al.*, 2011; Scherl *et al.*, 2004). This approach involved creating protected areas in which people were excluded as residents, the consumptive use of resources inside the protected areas was prevented, the protected areas were managed in a top-down approach, and wherein a system of control akin to that of a military-style was stringently applied (Haller, Galvin, Meroka, Alca & Alvarez, 2008). Moreover, the expansion of protected areas often resulted in the displacement of local residents, thus creating a marked disruption in their livelihoods (Department of Environmental Affairs, 2009). Many of these social groups rely heavily on activities such as hunting, grazing, fishing, wood gathering and food gathering, and as such were forced to undergo not just economic adversities, but were also compelled to endure the difficult process of both cultural and social changes as well (Ghimire, 1994). To further augment this difficult process, many rural communities were frequently marginalised and excluded from any decision-making processes regarding conservation, and as such were often the last to be offered access to any social services or development opportunities (Scherl *et al.*, 2004). Consequently, the cost of conservation began to take its toll on local communities who had previously benefited from the natural resources now protected.

Concurrent to the post-war period, conservation institutions also began to rapidly develop, giving rise to organisations such as the International Union for the Conservation of Nature and Natural Resources (IUCN), and later the World Wildlife Fund (WWF), United States Agency for International Development (USAID), the World Conservation Union (WCU), and various other United Nations (UN) agencies (Ghimire, 1994; Pelser *et al.*, 2011). Later on, this discourse became rooted in

various circuits, for instance in the Geneva region (IUCN), New York (UN), Washington (World Bank and US Government), and Paris (United Nations Educational, Scientific and Cultural Organisation - UNESCO), in which they emphasised the importance of considering the socio-economic needs of the local community when developing biodiversity-conservation programmes (Adams & Hulme, 2001; Hulme & Murphree, 2001; Pelsler *et al.*, 2011). Indeed, by the end of the 20th century wherein poverty alleviation had become a focal point in sustainable development, the dependence of poor communities on their surrounding natural resources became a piquantly powerful contention driving forward the need to integrate human development with protected areas (Upton, Ladle, Hulme, Jiang, Brockington & Adams, 2008).

As a result of these trends, many conservation authorities conceded that whilst conserving biological wealth was important, 'sustainable development' and 'protection' did not automatically mean that the two were mutually beneficial (Pelsler *et al.*, 2011). It became apparent that innovative alternatives towards aiding the local community needed to be addressed in order to pave the way towards poverty mitigation and thus sustainable development. In order to achieve this, a number of concepts and perceptions had to be revisited and acknowledged, wherein local communities were considered during the planning of these conservation areas. Furthermore, these concepts needed to be adjusted accordingly, as there is no definite solution which can be applied to all parts of the world. That said, more and more conservation agencies have been urged to suitably adjust their goals, thus ensuring that protected areas do not simply restrict the use of resources, but rather that their resources be made available to be sustainably utilised (Bhatt, 1998; Pelsler *et al.*, 2011).

This redress is firmly recognised within the 2030 Agenda for Sustainable Development (United Nations General Assembly, 2015). This Agenda is built on the previously accepted Millennium Development Goals (MDGs), wherein the interdependent relationship between the sustainable development of the rural poor and the preservation of natural resources was strongly accentuated (Upton *et al.*, 2008). Subsequently, Goal 15 of the 2030 Agenda for Sustainable Development pertinently focuses on the need to "protect, restore and promote sustainable use of

terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and biodiversity loss” (United Nations General Assembly, 2015: 24). More specifically, section 15.6 of Goal 15 stresses the need to further encourage and augment the benefits accrued as a result of ecosystem resource use, and which must be achieved in a manner that is equitable and just. In addition to this, section 15.9 of Goal 15 has also placed an emphasis on the need to, by the year 2020; assimilate biodiversity and ecosystem ideals into both local and national poverty alleviation strategies, as well as in development planning and practice.

Taking this into consideration, it is also important to note that biodiversity conservation is not simply related to this one goal alone, but also infiltrates and buttresses the attainability of other sustainable development goals such as the need to improve access to clean water, improve incomes and to mitigate hunger (Scherl *et al.*, 2004). For instance, as previously discussed in Chapter 2, conservation offers a number of ecosystem services to both those local communities surrounding protected areas, as well as for society as a whole. According to the MEA (2003), ecosystems can offer direct use-value services to those communities reliant on natural resources in the form of clean water, fuel wood, food and medicinal herbs. This means that even the most stringently protected areas have the potential to not only preserve nature’s ecosystems, but may also offer support to surrounding communities during times of extreme food scarcity or famine. Indeed, many protected areas function as repositories for fauna, flora, and aquatic life, which may then disperse into the circumambient areas, thus offering additional food security for those rural and often poor communities with limited access to resources (Scherl *et al.*, 2004). Likewise, in the case of drought wherein the local community’s’ livestock have depleted and overgrazed surrounding lands, the protection of the grasslands located within national parks such as the GGHNP will aid in securing the sustainable use of this resource which serves to provide the local communities with thatch that can be used for roofing, manufacturing household items, or even for generating a source of income.

Although the remaining three ecosystem services, namely the cultural, regulatory and supporting services (MEA, 2003), do not provide immediate relief to the

impoverished circumstances of those communities surrounding conservation areas, they nonetheless also play a pivotal role in augmenting human well-being and quality of life. These services allow people to fulfil indirect needs such as security of subsistence in the future, to have access to clean air through climate regulation, the ability to gain meaningful employment through tourism opportunities, and the ability to live in a controllable environment wherein they are protected from natural or human-made disasters such as watershed or massive storms, but to name a few (MEA, 2003; Nussbaum, 2007; Scherl *et al.*, 2004). This therefore suggests that improved management of protected areas will ensure diverse and healthy ecosystems and will also act as a pillar for enhancing overall quality of life, thus reducing poverty levels, as well as potential environmental challenges in the future. This rationale thus clearly indicates the need to reinforce the 2030 Agenda on Sustainable Development wherein the emphasis placed on environmental sustainability not only involves conserving the Earth's biodiversity, but also reflects the potential role that protected areas might have in augmenting the livelihoods of those rural communities surrounding them (Upton *et al.*, 2008).

Drawing from this, the following section serves to outline the developing interface between the environment and local communities. Specific attention is given to how a growing awareness of the interactive relationship between augmenting the livelihoods of local communities and sustaining protected areas has led to the incorporation of integrated conservation and development approaches into the mainstream conservation philosophy, and more explicitly, how this philosophy has been applied within South Africa.

4.2 Consolidating people with protected areas: from stringent exclusion to conscientious integration

The formalisation of national parks was initially conceptualised during the second half of the nineteenth Century, wherein the United States was the first to establish protected areas aimed at preserving biodiversity. At first, the main purpose of these national parks was to conserve the picturesque scenes and natural marvels of the world, and to meet the recreational and educational needs of the general populace

(Ghimire, 1994). However, coincided with these developments was the rising perception that the local people, both surrounding and living within the protected areas, had become threats to these natural biomes, and as a result park officials began restricting the degree of 'human interference' (Ghimire, 1994; Brown, 2002). As previously mentioned, this action was aptly described and predominantly referred to as fortress conservation.

Along with the implementation of the fortress conservation policy came the frequent dispossession and displacement of many individuals and families, which was further capitulated by the expansion of conservation estates, most notably in developing countries. Not only did this augment economic insecurity for a great number of social groups, but it also served to generate acute hostility towards these endorsed conservation procedures (Ghimire, 1994; Scherl *et al.*, 2004). Indeed, despite the local people's customary and legal rights over natural resources and land, their outcry was repeatedly dispelled and ignored when deemed harmful to protected ecosystems. Perceived as nature's adversaries, local communities were thus predominantly excluded from conservation activities, even from those which could potentially affect their livelihoods and homes. Not only did this further augment inequality amongst those local communities surrounding protected areas, but it also served to increase their vulnerability to external threats and aided in reinforcing the local communities' perception that conservation policies were an unjust and enforced precedence wherein animals and nature were prioritised over human well-being (Siurua, 2006; Brown, 2002).

In response to the criminalisation, impoverishment and marginalisation of these local communities, widespread dissent and resistance emerged in the form of illegal poaching and grazing, theft, physical confrontations with national park guards, sabotage of property and an overall collective hostility towards changes implemented by conservation management (Kothari, Anuradha & Pathak, 1998; Siurua, 2006). Plagued by this resistance, conservationists became increasingly aware that despite efforts to restrict the impact of humans on protected biomes, the loss of natural habitats, persistent environmental degradation, and the further extinction of endangered species, continued to hinder their intended purpose (Siurua, 2006).

Emanating from an increased awareness regarding this mutually conflicting and co-dependent situation, the closely interconnected relationship between escalating poverty levels and conservation was pertinently addressed and intensely debated during the Stockholm Conference on the Human Environment in 1972 (Pelser *et al.*, 2011). To further exacerbate this paradoxical situation, political support towards the principles of conservation also gradually began to decrease in many countries owing to the fact that many governments viewed conservation as a hindrance in developmental aspirations and progress towards poverty alleviation (Khotari *et al.*, 1998). Moreover, the lack of community participation in the management of protected areas and wildlife sanctuaries meant not only that the government needed to disperse a considerable amount of money in order to properly administer and police these areas (Ghimire, 1994), but that in a democratic country a lack of community participation would jeopardise the egalitarian principles wherein basic human rights and social justice are emphasised. As a result, without strong public support, political provision became more and more reticent (Khotari *et al.*, 1998).

Following these developments, fortress conservation became progressively challenged by the contention that conservation need not exclude local communities, either physically from the conserved area itself, or politically through the processes of conservation policy. Governments, along with the aid of those influential agencies previously discussed, began to realise that the administration of conservation areas could not be successfully undertaken without taking into consideration the natural and subsistence resource needs of those poor communities surrounding protected areas. The need for these poor communities to participate in the decision-making processes and general management of protected areas also became piquantly accentuated during this time (Algotsson, 2006). As a result of this, approaches towards the formation and administration of protected areas have become more formalised, wherein these approaches are progressively becoming more inclusive and socially accountable. Indeed, many countries have begun to actively encourage community participation in protected area management in order to support the needs and aspirations of the local communities surrounding the protected areas (Scherl *et al.*, 2004).

The perception of involving communities in conservation has developed dramatically from this, with a number of initiatives having paved the way towards what we now view as people-centred conservation. These initiatives were first conceptualised in the 1980 IUCN 'World Conservation Strategy', wherein emphasis was placed on linking the economic activities of local communities with protected area management. Following this in 1982 was the Third World Congress on National Parks in Bali which stressed the need to bolster community support through revenue-sharing schemes, and which also emphasised the need to implement appropriate development strategies alongside conserved areas. This was coupled with the need to improve education and participation of local communities in the programmes and the administration of protected areas (DeGeorges & Reilly, 2008; Scherl *et al.*, 2004). Furthermore, in 1985 the WWF launched the Wildlands and Human Needs Program which focused pertinently on combining sustainable human development with conservation (Mehta & Kellert, 1998).

However, it was not until the Rio Declaration in 1992 that the concept of people-centred conservation came into full force. As part of the United Nations Conference on Environment and Development held in Rio de Janeiro, three equally fundamental objectives were established, namely: the need to conserve nature's biodiversity, the need for a suitable avenue for the sustainable use of natural resources, and the need for a reasonable and fair distribution of benefits to local communities. This in turn firmly established, on an international level; the importance of community involvement in wildlife management and conservation. Arising out of the Rio Declaration was Agenda 21 (DeGeorges & Reilly, 2008), in which a comprehensive global strategy was developed, aimed at addressing the impact of people on the environment. This strategy provided a clear summary of the key issues faced when integrating development with conservation. These included the economic and social dimensions of development in decision-making, the adaptive management and planning of integrative conservation, and the strengthening of the positions and roles of those previous minorities such as children, youth, women, and the local people as a whole. In 2002, these principles and commitments were also strongly reaffirmed at the World Summit on Sustainable Development held in Johannesburg, South Africa (DeGeorges & Reilly, 2008).

Furthermore, in 2003 the 5th World Parks Congress (WPC), held by The World Conservation Union (supported by the IUCN) and hosted in Durban, South Africa; formed a fundamental building block in biodiversity agendas and sustainable development. Its theme 'benefits beyond boundaries', served to recognise the piquant interdependence between communities and conservation and acknowledged the potential role that protected areas might play in poverty alleviation. This was further compounded by the immediate need for protected areas to re-assess the effectiveness of those policies involving the surrounding communities and its indigenous people (Department of Environmental Affairs, 2009; International Union for Conservation of Nature and Natural Resources, 2005; Scherl *et al.*, 2004). Recognition was also given to the contribution that communities might make towards sustainable biodiversity and conservation, and acceded that those people indigenous to protected areas may also offer knowledge crucial to the sustainability of culturally intellectual heritage (DeGeorges & Reilly, 2008).

Closely following this was the 7th World Parks Congress Conference of Parties (COP7) held in Malaysia in 2004 which also served to accentuate the need for communities to be considered as mutual stakeholders in parks, and which could only be achieved by pertinently focusing on equity, governance, benefit-sharing and participation from communities. Coincided with this was the need for local community members to be encouraged to participate in the management and formation of protected areas. Moreover, this conference also acknowledged that local communities should share the benefits from protected areas and that mechanisms should be put into place in order for this to be achieved (Department of Environmental Affairs, 2009). In accordance with this conference, existing and future protected areas were called to establish, manage and launch, in full acquiescence of the rights of those surrounding communities; methods for participation that were previously denied to the local communities regarding land restitution. Moreover, this conference also called for protected areas to establish representatives within the protected areas management that would act on behalf of the local communities regarding their rights and interests (DeGeorges & Reilly, 2008). As a result of these assertions, the fundamental link between local development needs and the objectives of the conservation areas became an increasingly important focal point in sustainable development, and thus the exploration into potential strategies aimed at

implementing this new way of thinking were swiftly set in motion (Adams & Hulme, 2001).

These conventions clearly illustrate a growing awareness of the closely intertwined relationship between development and conservation, which recognises not only the need to promote and strengthen the sustainable and environmentally sound development of areas contiguous with conservation areas, but which also acknowledges the potential role that protected areas may have in alleviating poverty within developing countries through the promotion of the social and economic development of those communities surrounding protected areas (Scherl *et al.*, 2004). This therefore serves to provide and justify legislature which links conservation to poverty, and which also recognises that poverty may threaten the very survival of conservation and what it aims to protect.

Drawing from this, the need to integrate conservation within development approaches has become paramount. Subsequently, the following section serves to illustrate the various typologies pertaining to this integration, as well as how this approach might best be applied.

4.3 Implementing integrated conservation and development programmes

The last few decades have seen an increasingly strong accentuation between the threat of environmental degradation and that of rural poverty. In order to assuage and provide support to both these issues, recent conservation policies have emphasised the important role that protected-areas management and biodiversity conservation may play in the potential reconciliation of the socio-economic needs of those rural communities surrounding protected areas (Pelser *et al.*, 2011).

A number of strategies have since been introduced following the implementation of this new way of thinking, subsequently emphasising the importance of local resident participation in the administration over natural resources. The typologies linked to this form of people-centred conservation are not necessarily homogeneous as there is no one typology that can be applied to all communities. Indeed, these approaches often fall under various labels such as *community wildlife management*, *community-*

based natural resource management, collaborative management models, community-based conservation and integrated development and conservation projects (Adams & Hulme, 2001; Pelsler *et al.*, 2011; Scherl *et al.*, 2004). Perhaps the most apt and descriptive hypernym that can be used to collectively describe these various approaches is the term *integrated conservation and development programme(s)* (ICDP) (Pelsler *et al.*, 2011).

Davies (2009) identified three predominant motivators common amongst all of these ICDP strategies. These classifications include the development and building of community capacity (a social incentive) through collaborative management, wherein mutual agreements regarding access to natural resources is achieved between local communities and conservation authorities (Davies, 2009; Barrow & Murphree, 2001). In addition to this are those strategies aimed at enhancing and protecting environments by means of offering benefits such as education, and giving the local community control over the sustainable management of the protected areas' natural resources (an environmental protection incentive) (Davies, 2009; Barrow & Murphree, 2001). Lastly are those strategies which address the need for the development of economic viability within populations (an economic incentive) (Davies, 2009). This incentive proposes to offer economic benefits to communities adjacent to the protected areas in order to augment and sustain its biological integrity (Barrow & Murphree, 2001). These elements of participation, conservation and a concern for economic well-being have served to create numerous conservation interventions. However, these strategies vary greatly with one extreme extending towards existing conservation projects which essentially negates the local community; to another extreme in which the strategies have become specifically aimed towards sustainable development, and in which local residents have been given full tenure over the natural resources (Adams & Hulme, 2001). Thus, these ICDP initiatives not only vary in the way that they relate to nature, but also the extent to which local residents are involved, as well as exactly how they are involved. Indeed, these strategies are often not mutually exclusive but rather tend to be incorporated, in varying degrees, within most conservation policies that aim to provide benefits to communities adjacent to protected areas (Pelsler *et al.*, 2011).

A number of incentives have also been implemented as a means of encouraging local communities to participate in and support conservation in biodiversity. These incentives can be either direct or indirect. Direct incentives include cash in the form of compensations, rewards, grants, loans and subsidies, as well as the provision of improved livestock varieties, food, employment opportunities, land tenure and controlled access to resources within protected areas (Bhatt, 1998; Pelsler *et al.*, 2011).

Protected areas may also offer a number of indirect benefits which are often non-financial in nature, but which are nonetheless appreciated by those local communities surrounding the national parks. Some of these indirect benefits include community development activities which may result in enhanced environmental education programmes and augmented infrastructure, as well as improved access to information, education, training, and skills development – all of which have the potential to bring about employment opportunities for those people living adjacent to protected areas. Moreover, protected-areas management also has the potential to aid in improving and developing good relations amongst stakeholders by encouraging local leadership and enhancing the local community's sense of identity and affiliation (Pelsler *et al.*, 2011; Sondergaard, 2000; Department of Environmental Affairs, 2009; Nussbaum, 2007).

Biodiversity-based enterprises have also become a strongly promoted form of the ICDP approach. The Biodiversity Conservation Network administered by the Biodiversity Support Programmes, and in consortium with The Nature Conservancy, WWF and World Resources Institute; has played an important role in this regard. The Biodiversity Conservation Network which was founded in 1991 was driven by two fundamental goals. Its first aim was to evaluate the efficiency of enterprise-orientated methods for local residents, as well as to pursue various enterprise-based strategies relative to the conservation of biological diversity within a number of regions (Bhatt, 1998). This crucial network both monitors and focuses on the sociological, biological and enterprise elements of their projects, thereby taking into account the sustainability of the enterprise, the conservation of the natural resources being used, and assessing whether or not the benefits are being equally dispersed amongst the relevant communities.

Subsequently, it is clear that the typologies associated with ICDPs vary considerably, ranging from benefits and incentives be they direct or indirect, to offering enterprise-based opportunities aimed at maximising the positive impact of sustainable resource use. All of these opportunities can be used to enhance the social, environmental protection, and/or economic incentives for the respective communities, thus paving the way towards creating a harmonious and participative relationship between the local people and conservation management.

4.4 Emphasising participation in ICDP: An inclusive management approach

In recent years, participation has become a very generic term, but one which has become crucial in promoting sustainable development (Roodt, 2001). In reality, there is no one community that has a homogenous structure, and in many situations there is usually just one dominant proportion of the community that participates and thus garners the benefits, leaving often marginalised segments of the population such as the women or the poor to be excluded from this (Bhatt, 1998; Hulme & Murphree, 2001; Khotari *et al.*, 1998; Pelsler *et al.*, 2011).

Taking this into consideration, when implementing ICDPs it is thus fundamental that 'local participation' be seen not simply as the sharing of economic and social benefits, but as a process in which participation encourages local involvement, and more specifically the involvement of those marginalised segments of the local community. This can be achieved by means of participating in information gathering, decision-making, consultations, initiating and continued action, monitoring and evaluation; all with the purpose of providing these communities with the opportunity to engage in decisions that could potentially affect their lives (Bhatt, 1998; Roodt, 2001; Scherl *et al.*, 2004). As a result, in order for ICDPs to be truly effective, such an approach requires efficient management over resources in which the responsible conservation agency must be accountable, transparent, fair and participatory. This agency must not only be able to regulate the exploitation of resources, but at the same time it must create reciprocal relationships between the conservation agency and the local community (Bhatt, 1998; Khotari *et al.*, 1998; Pelsler *et al.*, 2011). It is important to note that, whatever the composition of the project; the involvement of

the local community must be endorsed and ensured if there is to be any hope of creating a successful partnership between a protected area and the local population surrounding it (Hulme & Murphree, 2001).

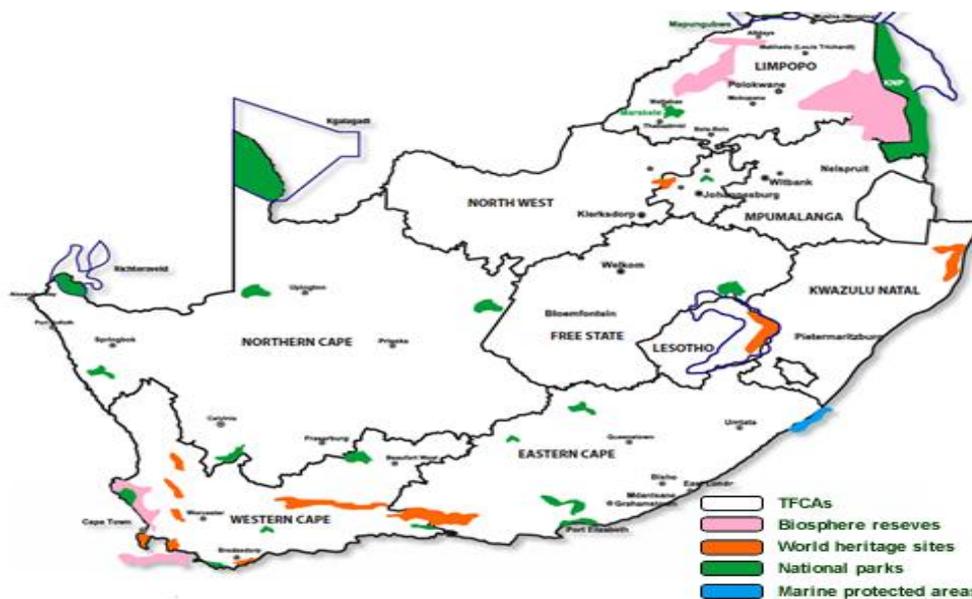
4.5 Integrating development with conservation in South Africa

South Africa is a country lush in biodiversity, with over 3 751 113 hectares of land dedicated to preserving indigenous species (SANParks, 2016a). In terms of biodiversity, South Africa is also deemed to be one of the world's richest countries, and is home to an estimated 10% of the Earth's diverse array of fauna and flora (Pelser *et al.*, 2011). Moreover, approximately 80% of South Africa's vascular plant species cannot be found natively anywhere else in the world (Pelser *et al.*, 2011). However, despite this abundant and rich biodiversity, issues such as pollution, the excessive use and depletion of natural resources, the dilapidation of land, the rapid growth of suburbs and agricultural lands, and an increase in population demands, have in concert become a driving force in the devastation and destruction of South Africa's essential ecosystems (Pelser *et al.*, 2011).

To combat the rapid deterioration of these natural habitats, and prior to the 1994 dispensation, South Africa adopted the then internationally acknowledged protectionist ideology wherein protected areas were established and which restricted the local populace from utilising the natural resources within them. This management approach was actualised and enforced by the late 1930s and became rooted in South Africa's conservation policy for many years. As a result, many communities were forced to relocate which in turn fuelled the local people's resentment towards conservation and amplified social conflict, which also resulted in the accelerated degradation of the environment. Moreover, this fortress conservation approach also had a devastating effect on poverty levels which rose rapidly following the execution of these ideologies (Pelser *et al.*, 2011). This meant that the majority of South Africans were strictly prohibited from entering these protected areas as consumers of the parks educational, recreational, and resource use opportunities, and were also excluded from any decision-making regarding the operation of these parks (Cock & Fig, 2000).

Following the political dispensation in 1994 there was a fresh commitment to the creation of transparent and participatory policy frameworks. This pledge provoked many changes in South Africa, including that of the then National Parks Board (NPB). In 1996 the NPB undertook massive changes including the change of their name to that of South African National Parks (SANParks). In November 2005, the National Environmental Management Protected Areas Act (NEM:PAA) came into full force (Department of Environmental Affairs, 2009), and in 2006, coupled with the enactment of the Amendment Act, ecologically viable areas became officially protected and conserved under South African policy (Pelser *et al.*, 2011) (see Figure 4.1). As a result of this, twenty two officially proclaimed national parks have been established since the inauguration of South Africa's first national park in 1926 (SANParks, 2014b).

Figure 4.1 Protected areas in South Africa



(Department of Environmental Affairs, 2016)

Furthermore, in 2005 Section 42 of the NEM:PAA co-management agreements between management authorities and the local communities were officially authorised, opening up a number of opportunities such as benefit sharing, the development of potential economical prospects, income sharing, assignment of power, the utilisation of natural resources, financial support, knowledge exchange and the development of management capabilities (Department of Environmental

Affairs, 2009). In conjunction with this policy framework, Section 50(1)(a) provided avenues for management to implement commercial activities and authorise methods of raising revenue. Furthermore, Section 50(1)(b) allowed for management authorities to enter into written agreements with the local communities surrounding national parks, and which permitted the sustainable use of a number of natural resources.

Following these policy changes, SANParks became committed to supporting this new perception of integrated conservation, linking it to issues of sustainable development and human needs. In line with this, SANParks set out to create a harmonious relationship between both the parks and the people whilst at the same time building on traditional perceptions of wildlife and wilderness in African indigenous cultures (Cock & Fig, 2000). As a result of this, some significant changes were made in the process of increasing community involvement, including the eradication of sexism and racism, formalised land restitution, increased income and tourism, improved accessibility, and the development of heritage management and cultural resources (Pelser *et al.*, 2011).

These changes have become embedded and supported within the environmental conservation policies and legal frameworks of South Africa. There are now a diverse number of initiatives that have been developed in line with these policies which frequently underpin the country's conscientious movement towards a conservation approach that is more people-centred. One of the most notable of these initiatives is the *People and Parks Programme* (P&PP) developed by SANParks which is rooted within the legal framework of the NEM:PAA (Act No 57 of 2003 as amended in 2006), and which has subsequently become deeply embedded within the principles driving SANParks Resource Use Policy (Pelser *et al.*, 2011).

4.5.1 The People and Parks Programme of SANParks

In order to progressively improve the relations between SANParks and the local communities, and following the requisites set by the WPC¹⁷ held in Durban, South Africa in 2003; the P&PP was established to better serve, protect and support the rights of those communities affected by conservation areas and protectionist programmes. Over the next few years various national People and Parks conferences were held wherein all those individuals with vested interests in protected areas were invited to take part. Within these conferences their experiences, successes and challenges were addressed along with the exchange of best practice approaches (Department of Environmental Affairs, 2009). These conferences served to provide the P&PP with a conceptual framework and structure that could be used to implement improvements not only at a national level but also at a local level as well. As a consequence, key P&PP drivers were developed into an Action Plan. This involved six fundamental drivers, namely: i) the need for institutional capacity building, ii) improved land reform of protected areas, iii) the expansion of protected areas, iv) linking of the cultural landscapes, v) increased mainstreaming and funding, and vi) the need for the development of community partnerships, both public and private. From this, the resource use policy of SANParks came to encompass a philosophy of viably striving towards the integration of the administration of ecosystems, heritage, cultural landscapes and biodiversity resources with that of sustainable human development, without further degrading the integrity of the ecosystem in the process (SANParks, 2010).

¹⁷ The 2003 WPC in Durban strongly supported the role of protected areas in poverty alleviation, and was instrumental in the policy switch at SANParks, which subsequently paved the way for the P&PP. Resolutions pertinent to this and highlighted in the 2003 WPC, included the need for a) biodiversity to be protected not only for its national and global benefits, but also as a local livelihoods resource, b) protected areas to integrate biodiversity conservation within an eclectic sustainable development planning agenda, c) protected areas to aid in poverty alleviation at the local level, d) the benefits and costs of protected areas to be equitably shared at a local, national and global level, e) culturally, socially and economically affected communities to be compensated, f) a gender perspective to be incorporated in benefit sharing, thus contributing towards more effective and equitable governance systems. Additionally, emphasis was also placed on the need for protected area management to enhance opportunities and build partnerships with poor communities, to improve transparency and accountability in the decision-making process relative to protected areas and wherein mechanisms for the poor to be actively involved in decision-making must be strengthened, to develop 'pro-poor' methods used to promote environmental stewardship amongst the local communities, to provide biodiversity benefits in order to improve livelihoods within protected areas wherein services and goods are rendered and supported, and lastly, in order to prevent further loss of customary rights, recognition and respect for customary ownership, access and use rights need to be negotiated in decision-making processes (International Union for Conservation of Nature and Natural Resources, 2005).

According to Cock and Fig (2000), changes in resource use policy will serve to stimulate a number of ICDPs through both tourism and conservation. Indeed, SANParks community forums began incorporating tribal authorities, village development committees, educators, youth leaders, government departments, as well as various other NGOs (Cock & Fig, 2000), which has in turn paved the way for public acceptance in this new conservation endeavor and which starkly contrasts with the previously applied fortress conservation approach.

4.5.2 SANParks Resource Use Policy

The Resource Use Policy developed and implemented by SANParks (2010) conforms to the international agreements and conventions as well as several national and provisional legislations indicative within the following:

a) International agreements and conventions that served to regulate conservation policy and practice

- World Conservation Union (IUCN) Guidelines.
- Addis Ababa Principles and Guidelines for Sustainable Use of Biodiversity [CBP/UNEP/COP/7/21].
- International Convention of Biological Diversity (CBD, 1993).
- Agenda 21 (United Nations Conference on Environment and Development, 1992).
- Indigenous and Tribal Peoples Convention (ILO Convention, 1989).
- Convention on the International Trade in Endangered Species of Wild Fauna and Flora (CITES, 1973).
- UNESCO Convention Concerning the Protection of the World Cultural and National Heritage (World Heritage Convention, 1972).

b) National and provincial legislation pertaining to South Africa's conservation policy and practice

- National Environmental Management: Biodiversity Act [Act no. 10 of 2004]: *National Norms and Standards for the Management of Elephants in South Africa.*

- National Environmental Management: Biodiversity Act [Act No. 10 of 2004]: *Bio-prospecting, Access and Benefit-sharing Regulations.*
- National Environmental Management: Biodiversity Act [Act No. 10 of 2004]: *Threatened or Protect Species Regulations.*
- National Environmental Management: Protected Areas Amendment Act [Act No.31 of 2004].
- National Environmental Management: Biodiversity Act [Act No.10 of 2004].
- National Environmental Management: Protected Areas Act [Act No. 57 of 2003 as amended in 2006].
- National Heritage Resources Act 1999 [Act No. 25 of 1999].
- National Environmental Management Act [Act No. 107 of 1998].
- National Forests Act [Act No.84 of 1998].
- Marine Living Resources Act 1998 [Act No.18 of 1998].
- Provincial Ordinances.

Drawing from these policies and legislature, SANParks' Resource Use Policy (SANParks, 2010) thus aims to create a sustainable avenue towards the consumptive use of non-renewable and renewable resources within the various National Parks in South Africa. This approach to resource use is however, subject to the following conditions being met:

- a) The rate of resource use (i.e. the total amount of resource yielded per unit time) must be below the natural replenishment rate of the resource, and wherein consideration must be made for the ambiguities in both the paucity and approximation of the resource, both within and outside the National Park.
- b) The ecosystem process, the resource, or any other resources dependant on its biodiversity must not be threatened.
- c) The total social benefits of a National Park resource must be considerably greater than the loss of value resulting from its usage.
- d) Activities and programmes developed to make use of a resource within a National Park must not negatively impact the advantages that can be obtained from other resources. Activities and programmes must meet the objectives of

the National Park, must not jeopardise the custodianship of the National Park, and must not negatively impact the National Park's fiscal needs.

- e) Finally, only a minor fraction of the initially identified quantity of the resource may be used, and wherein the remainder of the resource, the ecosystem process and those elements of biodiversity dependant on it, are not unduly compromised by such usage.

With this in mind, decision-making processes relative to the specific resource use must also be evidence-based, deemed practical, participatory, and must be open for discussion. Elements needed to guide these decisions must also include valid historical use rights, international treaties, SANParks policies, the ecological status of the resource, national laws, and the rectification of historical drawbacks such as poverty, gender inequality, and so forth (SANParks, 2010).

SANParks has also developed a number of goals in which they have endeavored to develop human resources, eliminate racial and gender discrimination, extend environmental education to all the citizens of South Africa, improve relations with the local communities, end all exploitative and discriminatory labor customs, and change the corporate culture of parks. In addition to this, and as previously mentioned, NEM:PAA (Act no 57 of 2003 as amended in 2006) has also allowed the P&PP of SANParks to steadily move towards a more integrated conservation approach (Cock & Fig, 2000; Pelsler *et al.*, 2011).

Based on these developments, various People and Parks projects have since been implemented that offer many potential benefits for SANParks. For instance, there are a number of projects such as setting up food gardens, education and awareness projects, indigenous nurseries, the interpretation of medicinal plant use, forest rehabilitation projects, performing arts and crafts projects, the Mayibuye Ndlovu Development Trust, the Wire Frame Products project (SANParks, 2015b), the sales outlet structures such as the Kruger Gate sales outlet, the Numbi Gate sales outlet and the Hlanganani Phalaborwa sales outlet, the Contractors Development Programme which focuses on construction and fence maintenance and invasive species control, the Community Outreach Programme, the reconstruction of Thulamela Heritage Site, and the Skills and Learnership Development Programme –

all of which have added value and meaning to the ICDPs offered in South Africa (SANParks, 2015a).

Indeed, since 2007 approximately 5 100 people have been engaged to work in an Extended Public Works Programme (EPWP) directly related to conservation, and more than 300 000 school children have benefited from free entry into national parks. In addition to this, access to culturally valuable heritage sites which includes historical graves, is supported by most of the protected areas. Moreover, a number of sustainable resource use programmes have been introduced within many of the national parks which offer support to various communities, and wherein the local communities are able to harvest the parks resources in a sustainable way that may also benefit them economically (Pelser *et al.*, 2011).

Consequently, since the political dispensation in 1994 SANParks has made vigorous efforts towards incorporating ICDPs within their Resource Use Policy. However, despite the fact that these strategies may be both politically necessary and morally right, implementing strategies to promote sustainability through limited resources has proven to be quite challenging. Challenges faced include issues pertaining to a lack of political will, institutional capacity, community cohesion and/or the limited availability of resources (Cock & Fig, 2000). On the other hand, the benefits for involving local communities near protected areas include income-generation, the building of skills, access to raw materials/inputs, support and training, and funding (Sondergaard, 2000; Department of Environmental Affairs, 2009) - all of which also provide the scaffolding needed to mitigate poverty in the future.

4.6 Summary

Drawing from the above literature, there is an unmistakably strong and interdependent link between protected areas and its often impoverished local communities. These local communities cannot be sustained without the aid of conservation areas, and protected areas need the local communities' support and assistance in protecting its biodiversity. In the past, conservation sought to exclude the local communities entirely which in turn negatively impacted not only the socio-economic status of the surrounding communities, but also the local communities'

regard and perspective towards conservation and what it represents. As a result of this, public policy has sought to develop strategies towards creating a partnership between protected areas and the local communities. One such strategy is the ICDPs which, having been widely adopted albeit in varying degrees, offers a more inclusive approach aimed at enhancing the benefits for the local communities whilst at the same time conserving the biodiversity which is now so dearly safeguarded.

There are however, a number of factors that need to be considered when implementing ICDPs. Many issues still require resolutions, and many of the challenges faced by this approach are still in the process of becoming a part of formal strategy and public policy. One such example previously illustrated is the national parks in South Africa, in which SANParks has faced some substantial challenges in the face of significant adversity. To combat both poverty and the local communities' growing resentment towards conservation, the P&PP was established aimed at developing more inclusive strategies that would ultimately benefit both the protected areas as well as those communities surrounding these biomes. In turn, SANParks Resource Use Policy was adjusted to create sustainable avenues towards the consumptive use of renewable and non-renewable resources which can now be found within the various national parks in South Africa. This new policy on the utilisation of resources in national parks not only serves to underline the crucial role that protected areas play in terms of sustainable economic development, but it also serves to highlight the national parks potential role in augmenting the well-being of the communities surrounding them.

However, the actual execution of sustaining both the conservation of biodiversity whilst at the same time using its natural resources towards the socio-economic sustainability of the local communities is highly complex and is not a task to be undertaken lightly, but which must nonetheless be considered in order to mitigate poverty and promote sustainable development.

Chapter 5

Data Analysis

About this chapter

This chapter serves to analyse, assess and determine to what extent the GGHNP thatch harvesting programme has positively contributed towards improving the quality of life of those benefitting from the programme. The impact of this programme on the park, as well as the degree to which this ICDP has added value towards the well-being of those benefitting is a central focus within this chapter. Moreover, the extent to which this programme has benefitted the most vulnerable and poorest section of the local community is pertinently explored, and an analysis regarding the challenges that this programme faces is also subsequently addressed. The last subsection of this chapter is dedicated to the recommendations provided by the beneficiaries in terms of the ways in which this programme can be improved in the future.

5.1 Introduction

It is essential that one first establish the foundations upon which to make a thorough assessment. Therefore, it is necessary to first provide an overview of the thatch harvesting programme which includes the driving forces behind its development, how this programme is operated and maintained, and how the beneficiaries were located. Following this, the findings within this study will begin with establishing an outline of the socio-economic status of the beneficiaries and the households to which they belong. This in turn provides insight into the impoverished conditions of the communities in which the beneficiaries reside, and which also serves to underpin and determine the impact of this programme on the overall well-being of both the beneficiaries as well as their households. In addition to this, the programme's contribution towards improving the well-being of the beneficiaries were evaluated according to the five dimensions of the Millennium Ecosystem Assessment (MEA,

2003), as was previously highlighted and outlined in both Chapter 2 and Chapter 3. In line with this methodology, these findings set out to determine the extent to which the thatch harvesting programme has benefited these beneficiaries in terms of both their objective well-being (OWB) and subjective well-being (SWB), wherein it explores the degree to which these beneficiaries perceive this programme as having benefitted them. Following this, the challenges encountered by the beneficiaries whilst participating in the programme is pertinently discussed, coupled with their perceptions regarding how the programme might be improved in order to strengthen and maximise the impact of this programme for those participating in the future. The final aspect to be discussed in this chapter will refer to the impact of the thatch harvesting programme on the GGHNP grasslands.

5.2 About the project

The purpose of the following section is to provide a broad synopsis of the general circumstances associated with the grassland biome in South Africa. Following this overview, a more comprehensive examination of the thatch harvesting programme offered at the GGHNP will be conferred.

5.2.1 Setting the scene: The grassland biome in South Africa

Globally, approximately 40% of the earth's surface is covered by grasslands. More than one billion people across the world inhabit this biome, which offers a number of ecosystem services that are utilised to support not just the inhabitants but also those living outside the biome (Egoh, Reyers, Rouget & Richardson, 2011). Of the nine biomes in South Africa the grassland biome is the largest, covering approximately one third of the country (Grasslands Programme, 2014b). The grasslands found in South Africa represent an intricate and complex ecosystem that includes, but is not limited to, three World Heritage Sites, five Ramsar wetlands, and 42 river systems. More than 3,000 plants species can be located in these grassland biomes wherein only one in six of them are grasses (Grasslands Programme, 2014b). These biomes are also home to a large assortment of wildlife, and offer a

variety of essential ecosystem services necessary for human development and well-being. The grasslands biome not only provides grazing for millions of sheep and cattle, but also offers essential ecosystem services in terms of wetland functions, recreational amenities, flood attenuation, water production, and also aids in sustaining livelihoods in terms of thatch for housing, medicinal plants, and/or grass for weaving (Grasslands Programme, 2014b). Moreover, the grassland biome in South Africa performs an essential function in the hydrological cycle wherein it aids in reducing soil erosion and runoff, and in turn amasses this runoff either in wetlands or as groundwater, thereby playing a crucial role in the freshwater and water supply ecosystem services (Egoh *et al.*, 2011).

However, despite its key role in sustaining ecosystem services, the grasslands biome has become one of the most threatened ecosystems in South Africa owing to an increase in population size, the expansion of mining operations, the amplification of the forestry industry, rapid urbanisation, and increased commercial agriculture. As a result, over one third of South Africa's grassland biome has been irrevocably transformed and less than 2% of these grasslands are officially protected and conserved (Egoh *et al.*, 2011; Grasslands Programme, 2014a). Based on the existing conditions of South Africa's grasslands, compounded with the anticipated impact of future developments, the integrity of this biome and the fundamental ecosystem services that it provides are expected to degrade to such an extent that it threatens to deteriorate overall human well-being. As a result, for the purpose of sustaining economic development and biodiversity in terms of the ecosystem services offered by South Africa's grassland biome, the National Biodiversity Strategy and Action Plan has recognised the need for the grassland biome to be identified as a spatial priority for conservation action (Grasslands Programme, 2014a).

5.2.2 Grassland conservation and grass harvesting at the Golden Gate Highlands National Park

As previously mentioned and illustrated in Chapter 1, the GGHNP is located in the north-eastern part of the Free State Province and is nestled along the Rooiberg

range at the base of the Maluti Mountains (SANParks, 2013). Established on 13 September 1963, the GGHNP has since become a driving force behind South Africa's grassland conservation strategy (SANParks 2016b). The extent of this national park is currently 32 758.35 hectares, and this highland habitat is home to an array of bird species, antelope and mammals, and is also well-known for its significant paleontological discoveries and breath-taking sandstone formations (Pelser *et al.*, 2013; SANParks, 2013). Situated in the lush grasslands found between the towns of Qwa-Qwa (40km) and Clarence (20km), the GGHNP is also home to five vegetation types that have been identified as grassland namely, the *Basotho montane shrubland*, the *Lesotho highland basalt*, the *Northern Drakensberg highlands grassland*, the *Eastern Free State sandy grassland* and the *Drakensberg-Amathole Afromontane fynbos* (SANParks, 2013). The GGHNP is at this point the only national park in South Africa that preserves the *Afromontane grassland* biome (Ramsay, 2013). It also protects the *Eastern Free State grassland* and *Basotho montane shrubland* vegetation types which have also been classified as having a high conservation urgency rating, as only 2% of both these habitat types are being protected by the GGHNP and the Sterkfontein Dam reserve (SANParks, 2013). One of the grass species abounding within the GGHNP is the red *Themeda triandra*, a highly nutritious grass ideally suited for grazing antelope and is also generally considered to be a good indication of a healthy ecosystem (Ramsay, 2013). Outside the perimeter of this protected area however, much of the grasslands have become irreversibly degraded as a result of soil erosion and overgrazing. To further illustrate the value of this national park, the GGHNP also serves as a vital water-catchment area in Southern Africa, wherein the Maloti Drakensberg catchment complex found within this protected area produces more than 50% of South Africa's total freshwater supply (SANParks, 2016b). Drawing from this, it is clear that the GGHNP plays a crucial role in protecting and sustaining the ecological integrity of this biome.

As previously mentioned in Chapter 4, twenty two national parks - epitomes of South Africa's rich and diverse array of natural resources - have been officially proclaimed (SANParks, 2016a). However, as was also previously discussed in Chapter 4, up until 2003 when the conventional policy of SANParks was changed, the use of natural resources found within these protected areas was strictly prohibited,

including that of grass harvesting at the GGHNP. In accordance with the new amendments made to national legislation which makes provision for communities to gain access to natural resources within protected areas, it subsequently became necessary for SANPark's to revise their own policy regarding resource use. This new resource use policy introduced a regulated and standardised operating procedure for resource use in all of the South African national parks.

Drawing from this, the thatch harvesting programme at the GGHNP is one of several resource use projects intended to transfer economic and social benefits accumulated from biodiversity protection to the surrounding poverty-stricken communities. This is done by means of providing support through prospective employments opportunities in terms of park assisted entrepreneurial endeavors and commercial access permits (SANParks, 2012). Up until 2008, this conservation area consisted of two separate parks namely, the Qwa-Qwa National Park and the GGHNP. Prior to their amalgamation on 21 November 2008 (SANParks, 2013), the Qwa-Qwa National Park offered a rich source of harvestable grasses that were easily accessible to the people living within the nearby communities. Access to these grasses were an important part of the communities livelihoods, wherein it was used to produce a wide variety of items such as hats, decorations, brooms, baskets, roof thatching, and/or floor mats. However, following the amalgamation and in accordance with the National Environmental Management Protected Areas Act (NEM:PAA) (Act 57 of 2003), the GGHNP was obligated to restrict any harvesting activities within its newly established borders, subsequently cutting off access to natural resources that were otherwise freely utilised by the local community members. Acknowledging the financial consequences as a result of these restrictions, and in conjunction with the new SANParks Resource Use Policy which came into effect in March 2010, the GGHNP management began investigating possible opportunities wherein they could offer the use of harvestable grass within the park in a controlled and regulated manner (SANParks, 2012). In June 2011, documentation regarding the application for access, the access permits, the conditions for entry and harvesting within the GGHNP, as well as the documents required for monitoring during harvest, were conceptualised and put forward for evaluation. A drafts needs analysis report was also submitted for review in September 2011 (SANParks, 2012). Upon careful

consideration and acceptance of these supporting documents, a pilot project for the proposed thatch harvesting programme was subsequently launched in 2012.

5.2.3 Operationalising the thatch harvesting programme at the GGHNP

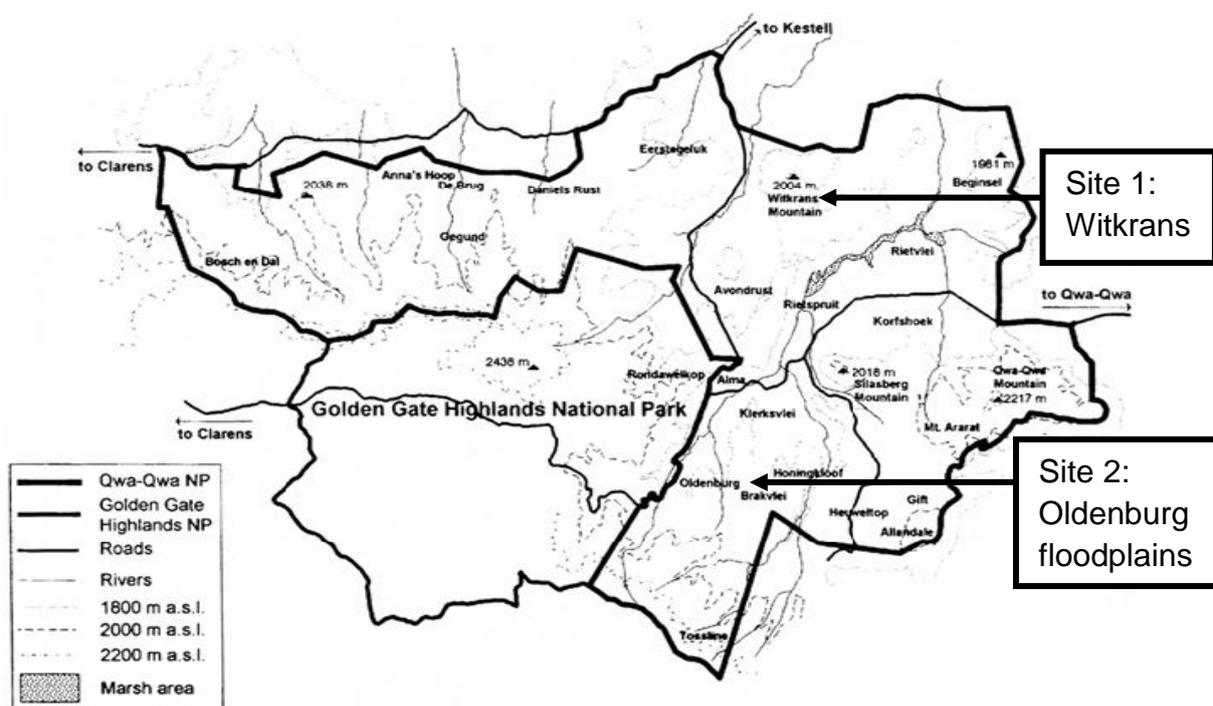
As previously mentioned in Chapter 4, the ICDPs launched by national parks across the country work and operate according to SANParks Resource Use Policy which acknowledges the historical affiliation connecting national parks, the resources that they serve to protect, and their respective stakeholders, specifically in terms of those claiming historical ownership and who had access to the land and its natural resources prior to its conservation (SANParks, 2010). Subsequently, the need to identify opportunities to make use of the resources protected by national parks has become a focal point in SANParks Resource Use Policy, wherein efforts have been made to involve and empower stakeholders in the management of these conservation areas, and subsequently the management of its respective resources as well. These alternative management plans are stringently based on extensive research that serves to develop informative and thorough decisions, and wherein both the short and long-term social and environmental impact of the resource being used is comprehensively analysed. Therefore, in accordance with SANParks Resource Use Policy, the thatch harvesting programme was proposed and developed by the GGHNP management as a means of moderating the gap between conservation and access to natural resources for the local communities surrounding the park. Prior to launching the thatch harvesting programme in 2012, extensive research was also conducted in order to ascertain the potential environmental impact of this programme (SANParks, 2010).

Subsequently, the sites selected for the thatch harvesting programme were based on a number of factors. Firstly, areas abundant with the two main grasses commonly used for thatching, more specifically the *Hyparrhenia cf. Hirta* and the *Hyparrhenia cf. dregeana* species, were identified and used to determine possible areas for harvesting. Secondly, the potential impact of the harvesting on the vegetation structure and the grass species composition found within these sites was carefully considered and weighed. Thirdly, a habitat assessment was conducted on the

proposed harvesting sites in order to determine the potential impact of the harvesting on those species inhabiting these areas. Lastly, vegetation types with a high conservation urgency rating such as the *Basotho montane shrubland* vegetation were carefully excluded from potential harvesting sites in order to preserve the at risk species and reduce the threat of biodiversity degradation.

Based on these factors, two sites were located and assigned for harvesting in 2012. Site one was situated in an area named Witkrans, whilst the second site was located along the Oldenburg floodplains (Figure 5.1). Both sites covered a viable grass harvesting area of approximately 100 hectares each. Quotas for the amount of grass viable for harvesting are managed in terms of restricting and allocating specific areas that may be used to harvest the thatch. This means that the amount of grass allowed for harvesting per season is stringently limited to these specific areas only. Harvesting outside of these allocated areas is therefore strictly prohibited. These restrictions serve to reduce the risk of overharvesting and aids in protecting other areas that may be home to vulnerable or endangered fauna and flora. In order to ensure that the harvesting remains within these allocated areas, park rangers need to regularly monitor the harvesting process.

Figure 5.1 Location of the harvesting sites for 2012



(De Swardt & van Niekerk, 1996)

Furthermore, the period for harvesting usually occurs between June and September depending on the availability and conditions of the grass. However, natural disasters such as flooding, fire outbreaks, and heavy snow may serve to restrict this time frame. Indeed, during the focus group session the park officials indicated that the potential quota allocated for the 2012 season was not reached due to heavy snow which resulted in the beneficiaries harvesting late into the season, thus limiting the time to harvest. In 2013, a new area was allocated for harvesting in order to allow the previously harvested grassland time to rehabilitate. However, due to a massive fire outbreak the opportunity to harvest was petered out (Illustration 1). This was confirmed by both the park officials during the focus group session as well as those beneficiaries who had been granted permits to harvest during the 2013 season.

Illustration 5.1 Proposed area for the 2013 harvesting season after the fire outbreak



(Author, 2013)

At the inception of the thatch harvesting programme, it was also important to determine which communities should benefit from harvesting this natural resource. During the focus group session with the park officials, it was indicated that the local community surrounding the GGHNP were defined as those communities that are situated within a 100km radius of the park. However, even though some towns such as Ficksburg fall within this radius, the distance that potential beneficiaries must travel in order to participate in the harvesting season is too far. Subsequently, the

local communities that fell within a 100km radius and who were also within a reasonable distance from the GGHNP came from towns such as Fouriesburg, Bethlehem, Clarence, Harrismith and Qwa-Qwa; all of which are located within the TMDM.

In terms of those responsible for ensuring that the thatch harvesting programme operates efficiently, there are a number of park officials involved. During the focus group session with two of these park officials, a number of essential responsibilities regarding the operation of this programme were highlighted. Subsequently, the Organogram illustrated below (Figure 5.2) serves to identify those park officials directly engaged in running the programme.

Figure 5.2 Organogram of the park officials operating the thatch harvesting programme at the GGHNP



With regards to the allocation of responsibilities the park manager is charged with overseeing the maintenance and operation of the GGHNP, including the various programmes actively offered by the park. The conservation manager is responsible

for ascertaining the location of potential harvesting sites through extensive and collaborative research. This research serves to determine the expected impact that harvesting may have on the natural grasslands allocated as viable harvesting sites. In turn, the people and conservation manager is responsible for overseeing the maintenance and general operation of the thatch harvesting programme, whilst the park official that acts as the community liaison is responsible for advertising the programme, processing the applications, and administering the permit grants. Lastly, the park rangers are those individuals tasked with monitoring and evaluating the impact of the programme on the allocated grasslands during the harvesting season. The park rangers are also involved in providing assistance to the conservation manager in terms of locating potential harvesting sites.

All the park officials involved in this programme are also responsible, within their capacities; for a number of other community projects offered at the GGHNP. Additionally, during the focus group session with the park officials it was also indicated that the thatch harvesting programme is not subsidised or financed in any way. Indeed, it was stated that the thatch harvesting programme is offered only as an opportunity for local communities to make use of the thatch, and that the park officials involvement in the programme extended only to pointing out appropriate sites for harvesting, the general administration in terms of applications, the granting of permits to harvest in the GGHNP, and the monitoring of the harvesting process.

5.2.4 Locating the participating beneficiaries

As the thatch harvesting programme at the GGHNP is relatively new, and due to the limited opportunity to harvest as a result of the fire outbreaks in 2013, the exact number of beneficiaries that have actually participated in this programme could not be accurately determined. For this reason, samples were taken from those beneficiaries who had been granted permits and who had participated in the pilot programme in 2012. According to information obtained during the focus group session, 46 individuals were granted permits for the 2012 harvesting season. However, of these 46 beneficiaries, only 34 were able to be interviewed for the study. The remaining 12 beneficiaries could not be interviewed due to a number of

factors. These factors ranged from being unable to determine the location of the beneficiaries as they had since moved, their contact details were no longer functional, and/or the beneficiaries lived deep within the mountains wherein only 4x4 vehicles could venture and were thus inaccessible. Upon further enquiry it also transpired that a number of these 'unavailable' beneficiaries were in fact not from the local community, but had borrowed identity documents from those residing within the local communities, and wherein they had used these identity documents in order to participate in the programme (This challenge is discussed in more detail in subsection 5.3.4). Lastly, of the beneficiaries that were able to be interviewed the majority (76.5%) resided in Qwa-Qwa. Three (8.8%) beneficiaries were located in Harrismith, whilst the remaining five (14.7%) participating beneficiaries were found within the GGHNP itself.

5.3 Findings and discussion

Having determined the logistics regarding this programme, the following section highlights the key findings revealed during the study.

5.3.1 Socio-economic status of beneficiary households

Of the 34 beneficiaries interviewed for this study, the results illustrated in Table 5.1 indicate that more than half (55.9%) lived in households which comprised of between five and eight members, with a further 12 (35.3%) beneficiaries reportedly supporting between one and four household members. The remaining three (8.7%) beneficiaries indicated that their households supported between nine and thirteen members. Household members were defined as those people who sleep within the house/dwelling for at least four nights a week. These household members must also share their physical resources such as food and income, and they must eat together with those also residing in the household.

Table 5.1 Household size of beneficiaries

Members per household	Number of households	
	N	%
1-4	12	35.3
5-8	19	55.9
9-13	3	8.7
Total	34	100

As previously mentioned in Chapter 3, the average household size for the larger Qwa-Qwa population is 3.3 (South African Institute of Race Relations, 2013). However, based on this sample of beneficiaries the average household size is 5.3. This higher than average household size is indicative of those most affected by poverty, wherein there is a lack of well-developed and supportive social security structures coupled with an inability to put money aside for long-term investments. Moreover, these kinds of households also typically have a higher than average fertility rate wherein a greater number of children living within a household not only increases the amount of subsidy and social grants gained from the government, but also provides the assurance of financial support for when the household members reach retirement (Meyer & Nishimwe-Niyimbanira, 2016).

In light of this, another important factor to consider when analysing the socio-economic status of these households is the number of dependents residing in them. Dependency can be defined as those individuals who heavily rely on external emotional and financial support and aid (Reber & Reber, 2001). As illustrated in Figure 5.3, when analysing the age structure within these households 26 (76.5%) of the beneficiaries indicated that their household supported at least one child under the age of 15 years. Herein, only two (5.9%) of these beneficiaries reported supporting one child, whilst 16 (47.1%) indicated that their household supported two children below the age of 15 years. A further six (17.6%) of these beneficiaries also reported having as many as four children living under their roof. Lastly, two (5.9%) of these beneficiaries indicated that their household supported five children.

Figure 5.3 Percentage of households supporting dependents under the age of 15 (N=34)

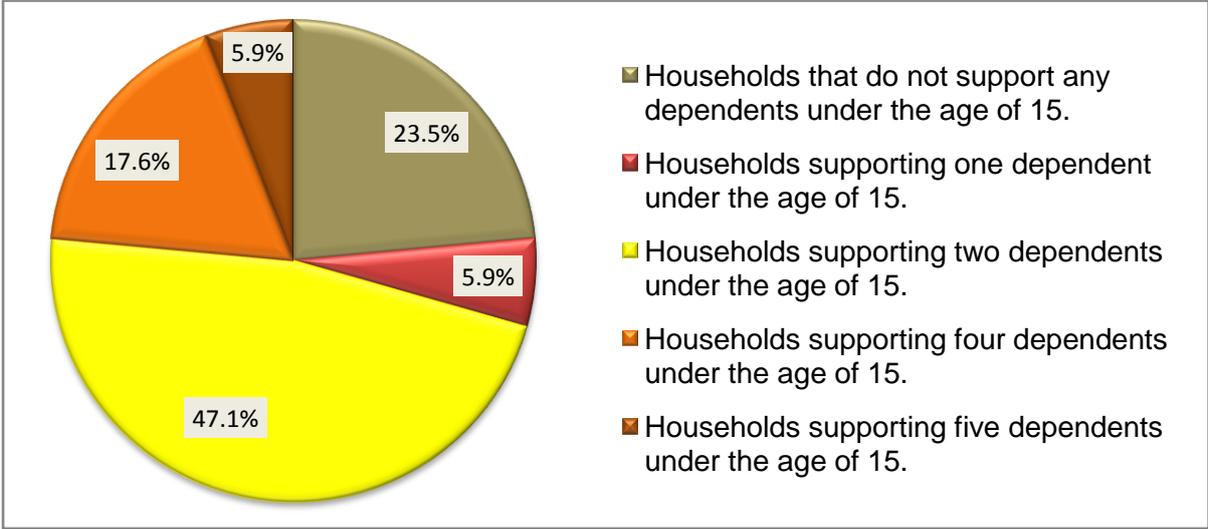
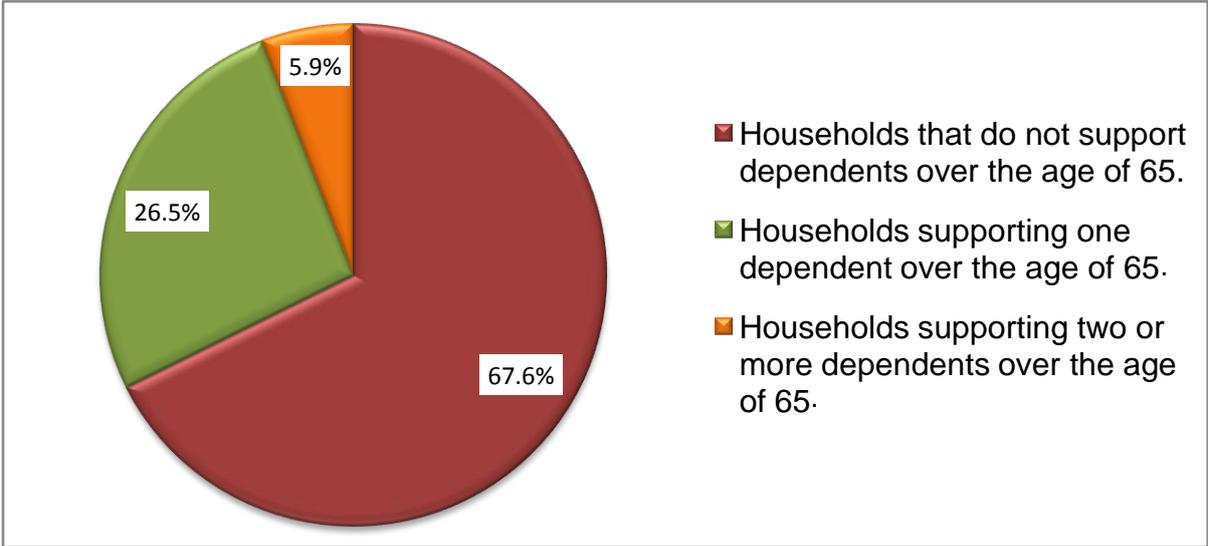


Figure 5.4 also serves to demonstrate the number of household members over the age of 65. Of the 34 beneficiaries sampled, nine (26.5%) indicated that their household supported one dependent over the age of 65. Two (5.9%) other beneficiaries indicated that there were two or more elderly members living within their household. This means that almost one third (32.4%) of the households sampled in this study reported supporting at least one household member that was over 65 years of age.

Figure 5.4 Percentage of households supporting dependents over the age of 65 (N=34)



Based on the age structure and size of the 34 households represented within this sample, there are thus a total of 72 children under the age of 15 years, with a further 14 adults over the age of 65. This household sample subsequently reveals an overall population profile which is typically characteristic of those households found predominantly within developing countries and particularly within rural areas, wherein there are a large number of household members with a significant proportion of them being dependents (The World Bank, 1998; Grosh, Ninno, Tesliuc & Ouerghi, 2008). According to Simelane (2002), this age structure is likely due to the fact that a considerable proportion of the rural population falling within the working age category (15-64) migrate out of the rural areas in search of job opportunities, which in turn results in these rural households acting as a cache for the adolescents and the elderly. These findings strongly correlate with the overall TMDM population profile (previously highlighted in Chapter 3) wherein almost a third of the population are dependents under the age of 15, and which is coincided with a large proportion of males migrating out of the area in search of work (Statistics South Africa, 2012).

Despite there being a significant number of household dependents, a large percentage of the beneficiaries (88.2%) indicated that there is at least one member of their household aged between 16 and 64. This age cohort represents those individuals who are capable of joining the workforce, and thus have more social and economic opportunities than do the elderly or under aged. However, membership of this age category also means being a part of the 'sandwich generation' (Kendall, 2012). This means that these individuals not only have the responsibility of supporting and raising the children living with them, but must also simultaneously take care of the elderly members living within their household. On the other hand, these household members may also become increasingly dependent on the old-age pension grant that qualifying household members may receive. According to Geldenhuys (2016), along with the growing number of households in South Africa that gain access to this form of grant, there has similarly been a steady decline in those households indicating that their primary source of income is derived from an earned salary. Indeed, it has become more and more evident that an old-age pension grant often ends up being the primary source of income in many impoverished households. Despite this grant being provisioned to safe-guard and protect the elderly from abject poverty, this source of income has also become an

increasingly expedient buffer for many unemployed household members. In these situations, the pensioners must support not just the young children, but also those household members that are unemployed. Children dependent on this meagre form of financial support also often lack access to quality education and grow up to become unqualified and unskilled. Furthermore, according to Nussbaum (2007), the profound financial strains on these types of households may further jeopardise each household member's capability to sustain bodily health, which portends to having access to basic needs such as adequate shelter, nourishment and health care. Indeed, in such cases the household members' ability to secure subsistence in the future and to be able to sufficiently care for the sick and elderly also becomes severely compromised (Costanza *et al*, 2007).

A further look into the total monthly household income also reveals the need to explore the potential that ICDPs such as the thatch harvesting programme have to offer. It is important to note that the figures presented in Table 5.2 below are only an approximate amount, as many of those members who contribute financially towards their households do not receive a fixed income per month.

Table 5.2 Total monthly household income (excluding the contribution of the thatch harvesting programme)

Monthly household income	N	%
Less than R1000	7	20.6%
R1001-R2000	14	41.2%
R2001-R3000	5	14.7%
R3001-R4000	3	8.8%
R4001-R5000	3	8.8%
R5001 and more	2	5.9%
Total	34	100%

As can be seen in Table 5.2, as many as 21 (61.8%) of the sampled households earn below R2000 per month. This equates to approximately R67 per day. Three (8.8%) of these households reported receiving a total monthly household income of less than R450 per household, subsequently positioning them very close to the lower

bound poverty line which is R443 per capita per month (Statistics South Africa, 2014). Drawing from this, it is clear that the conditions in which many of these household members live are well below standard and represent those poorest households situated in the TMDM.

Based on the sampled households, incomes are derived from welfare grants, self-employment, sporadic employment and in one instance, permanent employment. One of the most notable sources of income obtained by these households came in the form of child care grants, wherein 26 (76.5%) households reported receiving these grants to the amount of R300 per child per month¹⁸. Eleven (32.4%) households indicated that one or more of their family members received an old-age grant of R1200 per pensioner per month. One (2.9%) household reported receiving a monthly income from a disability grant to the amount of R1200 per month. Only six (17.7%) beneficiaries indicated that at least one of their household members were self-employed. The contribution towards the household income thus varies considerably and ranges between R300 and R5000 per month. Quite interestingly, one member of a household, excluding the beneficiary, is involved in another poverty alleviation programme run by the GGHNP namely the Working for Wetlands Project, wherein she earns approximately R3500 per month.

According to the households interviewed, those members that obtained sporadic employment were only able to contribute towards the household income in a limited capacity. Contributions derived from this form of employment ranged from as little as R100 per month to R1500 per month. Additionally, one (2.9%) of the households interviewed reportedly received sporadic payments from the biological parents of some children that she had fostered. She indicated receiving approximately R900 per month from this. Despite these varied forms of income, as many as 18 (52.9%) of the households interviewed for this study indicated that they relied heavily on the income that they generated from harvesting thatch. In one case, a household situated deep within the mountainous GGHNP reported receiving only R300 a month from a child care grant, which they used to support their family of three. The beneficiary residing in this household indicated that the grass that they harvested

¹⁸ The amount provided here for the child care grant, the old-age grant, and the disability grant, is based on the financial aid offered by the government in 2012.

and sold was their only other source of income. This again serves as a piquant reminder of the dependency of the poor on the natural resources surrounding them.

Socio-economic well-being can also be determined by looking at household consumption patterns. The expenditure of impoverished households is typically used to meet immediate needs and is absorbed by day-to-day living expenses. These expenditures are used to satisfy basic subsistence needs such as energy and food, whilst upper-tier consumer products such as household appliances and electronic equipment are regarded as sumptuous. In impoverished households such as these, often even the use of electricity is considered a luxury. As a result, these households seek out cheaper or freely available natural resources such as animal dung, wood, paraffin, or coal as a means to satisfy their energy needs.

Expenditure per household varied according to the number of members within the household as well as the needs of these members. However, according to the data obtained from this sample, much of the household income was utilised to sustain day-to-day living expenses such as energy and food. All 34 beneficiaries reported that their households did not pay rent for the dwellings in which they lived, and only a small proportion (29.1%) of the households were required to contribute towards school fees every month. This expense was largely dependent on the number of children in their household that still attended school and at what level of education they were in.

According to Statistics South Africa (2014), almost 87% of the households in South Africa have access to electricity. However, when asked how much was spent on electricity, as many as 15 (44.1%) beneficiaries indicated that their household did not purchase electricity at all. The other 19 (55.9%) households indicated that they consumed and purchased electricity on a monthly basis. Even so, the majority of these beneficiaries indicated only spending approximately R100 per month on electricity. These findings suggest that many of these households either do not have access to this basic service or that they simply cannot afford to make use of it, and which also means that electricity is not used by these households as a primary source of energy. Additionally, a reasonably large proportion of the households (41.2%) indicated that they do not use any of their household's income on transportation costs. This again points towards a low level of economic well-being

amongst these households. The low transport costs for these households may indicate that they are unable to afford transport. Moreover, considering that these households are situated in rural areas and would require working members to use transport to commute to and from work, the low transport costs also suggests a high level of unemployment amongst the household members. Of those households (58.8%) that reported spending a proportion of their income on transport costs, the expense was relatively little, amounting to less than R600 a month. The relationship between poverty and transport costs can be further accentuated by the means in which one of the beneficiaries transported the thatch she had harvested for personal use. This beneficiary reported having carried the harvested bundles home on foot in order to save on the costs of transporting them.

The majority (88.2%) of the households in this sample indicated that they did not spend any of their money on luxury items such as furniture. Notwithstanding, several of these households indicated that they sometimes purchased commodities and household items, but only when they had extra money available in cash. Indeed, one beneficiary stated: "I only buy furniture when I get money from cutting the grass". The remaining four (11.8%) households that did indicate spending money on furniture on a monthly basis, all reported that they were paying off store accounts for these purchases. Furthermore, even the cellular phone expenditure for the sampled households was irregular and also indicative of a low economic well-being. Only two (5.9%) of the beneficiaries reported that their households purchased air time on a monthly basis, with one (2.9%) household reportedly spending only R12 a month on this, whilst the other paid a monthly fee of R75 towards a cellular phone contract. Two (5.9%) households indicated that they had clothing accounts which they paid on a monthly basis. A further two (5.9%) households indicated that they paid a monthly fee of R21 towards their television licence. Two (5.9%) of the more 'affluent' households in this sample reported purchasing gas for their stoves which amounted to approximately R400 every month. Lastly, only six (17.7%) of the beneficiaries reported contributing towards a funeral scheme on a monthly basis. This expense varied from R25 to R300 a month.

Based on these findings, it is clear that these households live hand-to-mouth with much of their income going towards sustaining their basic food and energy needs.

Very few of these households are able to purchase basic consumer items such as clothing or furniture on credit, let alone have the ability to put money aside every month towards their future financial security which Nussbaum (2007) suggests should be a part of their capabilities, and which is also an important indicator of their OWB (Costanza *et al.*, 2007; Diener & Suh, 1997). None of the beneficiaries indicated spending their household income on any form of leisure or recreational activities such as going to watch a movie or taking family vacations. However, this does not mean that these households do not fulfil the need for play and leisure, which according to Nussbaum (2007) is also considered to be a basic human right. Households such as these often participate in leisure activities such as cultural events or community gatherings, wherein they do not need to make an economic contribution.

5.3.1.1 Factors driving the socio-economic conditions of the beneficiaries

There are a number of structural and economic factors that cause social inequality and poverty including unemployment, underemployment and/or job deskilling. As previously highlighted, the majority of the sampled households live hand-to-mouth wherein they use much of their income to gain access to basic subsistence needs. Coincided with this, the findings suggest that a large proportion of these households support a number of unemployed household members. According to Statistics South Africa (2014), there is a strong correlation between the level of education attained by the household head and the prevalence of household poverty. Where the head of the household has no formal education, 65% of these households live in poverty, compared with the 2.8% of households living in poverty wherein the household head has a post secondary school education. Subsequently, the ability of individuals to secure subsistence for their households can be largely linked to levels of literacy and the level of education found within their household. The improvement of these elements are especially crucial for women because of its strong link to decreases in fertility, improved earning possibilities, and overall improved health (Kendall, 2012). As this forms part of the need for sense, imagination, thought and understanding (Nussbaum, 2007; Costanza *et al.*, 2007), and as the majority of the beneficiaries

(67.6%) are females, it is especially important to take note of the beneficiaries' levels of education and literacy.

According to the data obtained in the sample, and as indicated in Table 5.3; less than one in every ten of the beneficiaries (9%) reported having completed their secondary schooling, whilst the majority (41%) of the beneficiaries indicated having only completed a part of their secondary schooling. Eleven (32%) of the beneficiaries only completed primary school, and as many as six (18%) of the beneficiaries had attained no form of education at all. As previously mentioned, the level of education of the household head can be pertinently linked to the prevalence of poverty, and which subsequently reduces the ability of these individuals to positively contribute towards their households' material well-being. In conjunction with this, a low level of education attainment, coupled with limited educational prospects, will in turn impact the households' future employment prospects. Drawing from this, it is clear that the evident cycle of poverty is also perpetuated by the low levels of educational attainment in these households, which in turn protracts the low levels of well-being found.

Table 5.3 Beneficiaries' level of educational attainment

Educational attainment	N	%
None	6	18
Completed primary school	11	32
Partly completed secondary school	14	41
Completed secondary school	3	9
Total	34	100

Because of the low level of education attainment found within these households, the chances of finding a permanent and stable form of employment are seriously impeded. This significantly augments their dependency on informal and low-skilled job opportunities such as those presented by the thatch harvesting programme, and which further strengthens the need to explore projects such as this. Apart from this, low education attainment may also constrain a person's ability to perform day-to-day functions. This became apparent when the beneficiaries were asked about their literacy levels. Of those interviewed, the majority of the beneficiaries (85.3%)

reported having no difficulty in writing their names. However, the ability to read, write and subsequently the ability to fill in forms, ranged from no difficulty to being unable to do this at all (Table 5.4).

Table 5.4 highlights that amongst those beneficiaries interviewed, only between 20% and 23% were able to read, write, and fill in forms without any difficulty. However, the majority of the beneficiaries indicated that they experienced at least some difficulty in performing these three skills. Six (17.6%) of the beneficiaries indicated that they were unable to read and write at all, and which also means that they were unable to fill in forms. In one case, one of the beneficiaries indicated that she was unable to even read road signs, which further denotes the impact that low levels of education attainment can have on everyday functioning. A further six (17.6%) beneficiaries indicated that despite being able to read and write to some extent, they were also unable to fill out forms.

Table 5.4 Beneficiaries’ ability to read, write and fill out forms

Ability	No difficulty	Some difficulty	A lot of difficulty	Unable to	Total
Reading	8 23.5%	12 35.3%	8 23.5%	6 17.6%	34
Writing	7 20.6%	14 41.2%	7 20.6%	6 17.6%	34
Filling in forms	7 20.6%	8 23.5%	7 20.6%	12 35.3%	34

Not only do these findings signify low educational attainment, but they are also indicative of low skill levels amongst the beneficiaries. These limitations will in turn severely hinder the beneficiaries’ ability to augment their OWB (Costanza *et al.*, 2007) and obtain a secure and stable form of employment. Subsequently, it can be inferred that due to these low levels of education and literacy, combined with the high levels of underemployment and unemployment in the TMDM, these beneficiaries and their household members are acutely hampered by their socio-economic status which further impedes their ability to achieve a higher level of well-being.

Taking into consideration these structural and economic sources of poverty and the subsequent poor quality of life attached to these conditions, the following sections

serve to ascertain to what extent the thatch harvesting programme offered the GGHNP has positively contributed towards improving the level of well-being of its beneficiaries, and subsequently the households of which they form a part of.

5.3.2 The health and well-being of beneficiaries participating in the Thatch Harvesting Programme

At the inception of the thatch harvesting programme at the GGHNP in 2012, all 34 beneficiaries interviewed reported having participated in the programme that year. However, for the 2013 harvesting season only 17 (50%) of the beneficiaries interviewed reported having re-applied and been granted permits to harvest. The remaining 50% of these beneficiaries indicated that they had not applied for that particular year. Follow up questions revealed that there were two reasons for this. These beneficiaries stated that they had either not applied on time, or that they had not profited enough from their previous efforts, and had therefore ventured into other areas of employment. However, for those that did apply the opportunity to harvest thatch in the 2013 season was stalled due to two massive fires that destroyed the area allocated for harvesting. For this reason, none of the beneficiaries who had obtained permits for 2013 were able to harvest, and thus no income was generated for that year.

However, with regards to the 2012 season, a significantly large majority (97.1%) of the beneficiaries indicated that the programme had benefitted them in some way, even though they only participated in one season of harvesting (during 2012). Most of the beneficiaries stated that their lives before participating in the programme had been difficult and that their lives had improved, at least to some extent, as a result of their involvement in the programme. Indeed, when asked about their life before participating in the programme, one beneficiary responded by saying: “My family was suffering, and I had to send my children away because I had no food in the house. I could not even buy clothes for myself”. When asked how her life had been altered after participating in the programme, the beneficiary then expressed: “This programme has changed my life. I was able to bring my children home, and I had money to buy food. I also bought clothes for myself. I looked human again”. Only one

beneficiary expressed the opinion that her quality of life had not changed much since participating in the programme. Additionally, when asked whether the programme had affected them negatively in any way, 27 (79.4%) of the beneficiaries indicated that it had not. The remaining 7 (20.6%) beneficiaries indicated only short-term negative effects such as having cuts on their legs which took a long time to heal, or having suffered from allergies whilst harvesting.

Drawing from this, the benefits of the programme for the participants, and subsequently for their households, become more distinct when gauged according to the MEAs five dimensions of well-being. Therefore, in accordance with the MEA (2003), the findings presented within the following subsections pertain to the various dimensions of well-being relative to the 2012 harvesting season.

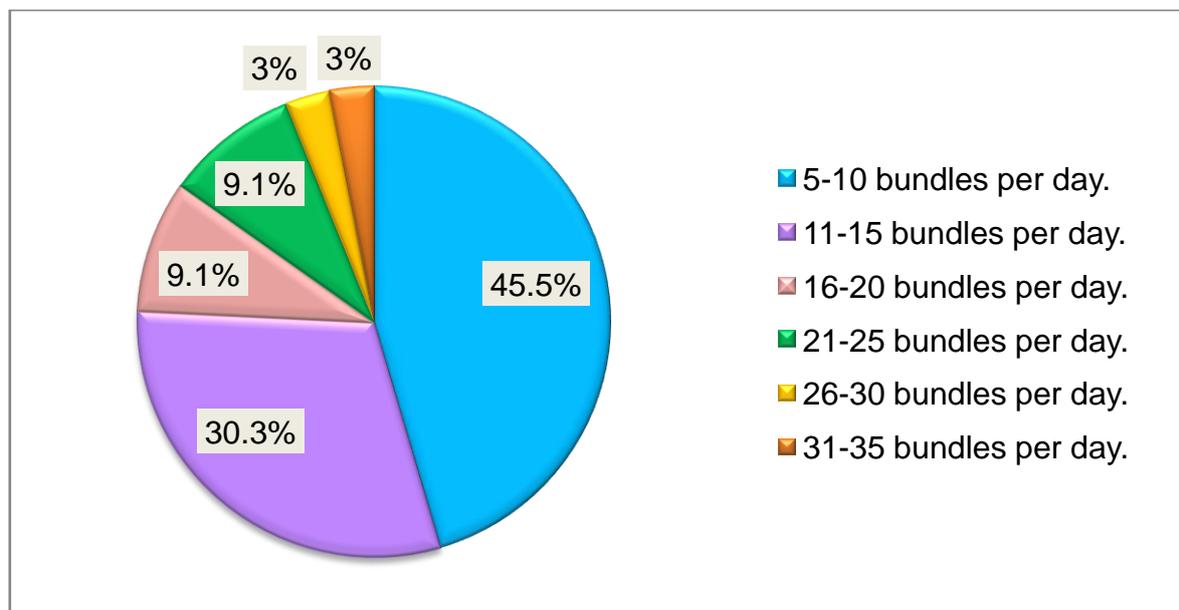
5.3.2.1 Material well-being

For the 2012 harvesting season, all of the beneficiaries indicated that they had benefitted financially from the programme. As previously mentioned in Chapter 2, the ability to have access to material well-being can be directly consigned with the ability to experience and secure a good life. According to the MEA (2003), this pertains to the ability of an individual to access prospects such as shelter, assets, goods, clothing, income and livelihoods. Subsequently, the findings illustrated in the rest of this subsection serve to highlight the impact that the thatch harvesting programme has had on the material well-being of those beneficiaries interviewed.

The impact of this programme on the material well-being of these beneficiaries can be, in part, determined by ascertaining the volume of thatch harvested in a season. Due to the late snows that limited the harvesting season in 2012, most of the beneficiaries were not able to harvest large volumes of thatch. Nonetheless, according to the findings presented in Figure 5.5, a considerable proportion of the beneficiaries (45.5%) reported having harvested approximately five to ten bundles per day, whilst a further 10 (30.3%) beneficiaries indicated having harvested between 11 and 15 bundles per day. Only two (6%) of the beneficiaries reported having harvested more than 25 bundles per day. It is important to note here that one of the beneficiaries interviewed did not harvest any thatch, but was in fact contracted

as a truck driver by a harvesting coordinator, tasked with collecting and transporting the harvested thatch to the commercial companies that purchased the bundles. As such, this beneficiary was not included within this part of the analysis.

Figure 5.5 Average number of bundles harvested by the beneficiaries per day (N=33)



Those bundles that were harvested were achieved within the time frame allocated by the GGHNP management. During the focus group session with those staff members representing the thatch harvesting programme, it was reported that 30 days were given to those beneficiaries granted permits to harvest the grass. This was confirmed by the Qwa-Qwa harvesting coordinator. However, the harvesting coordinator indicated that the 30 days also included weekends. As a result, only 20 days of the allocated time period was fully utilised as it was often difficult to obtain transportation for the bundles over the weekends.

Of the 33 beneficiaries that had actively harvested thatch grass, thirty one (93.9%) of these beneficiaries reported having sold their harvested bundles to a harvesting coordinator for R12 per bundle. These beneficiaries also indicated that they had been recruited by a harvesting coordinator to participate in the programme. The harvesting coordinators purchased the thatch bundles from the beneficiaries and thereafter sold these bundles to a number of commercial thatching companies.

During the interviews with the beneficiaries, many were unable to indicate a definite amount that they had earned during the harvesting season as they were paid either daily or weekly for the number of bundles that they had harvested. This is indicative of and reinforces the earlier supposition that emphasised the hand-to-mouth lifestyle that the beneficiaries of this programme are subject to. In light of this, the total income was calculated according to the average number of bundles that each beneficiary was able to harvest within a day. The equation used to calculate the total thatch harvest of these beneficiaries is as follows:

$$(Number\ of\ Bundles\ per\ day\ X\ 20\ days)\ X\ R12.00 = Total\ Individual\ Income$$

Based on this calculation, the total income generated from harvesting during the 2012 season approximated to R104, 580. Drawing from this, of the 33 beneficiaries that had harvested each had received approximately R3 169 for their efforts during the 2012 season. However, this per capita income was largely dependent on the actual number of bundles that each beneficiary was able to harvest per day. In addition to this, the truck driver reported having earned R3000 for transporting the thatch during the 2012 harvesting season. Thus, the total income generated from the thatch harvesting programme for the 2012 harvesting season approximated to R 107, 580. Taking into consideration the poverty-stricken conditions present within the TMDM, this can be viewed as a noteworthy source of revenue.

One beneficiary indicated having used the thatch she had harvested to manufacture brooms (Illustration 5.2) and small carpets which she then sold to tourists and local community members. Another one beneficiary reported using approximately half of the bundles she had harvested to repair the roof of her dwelling (Illustration 5.3), whilst Illustration 5.4 exhibits the excess bundles which she sells to the local community members in Qwa-Qwa. Subsequently, only two of the 33 beneficiaries who had actively harvested thatch did not form part of the economic supply chain which included the harvesters, the harvesting coordinators, and the commercial thatching companies. Drawing from this, having an immediate buyer for the thatch appears to be the preference amongst the sampled beneficiaries. Rather than make use of the bundles to fund an entrepreneurial enterprise, the majority of these beneficiaries appeared to favor a short-term solution to their economic well-being. In

turn, this preferred immediate form of gratification may prove to be a challenge with regards to securing their long term material well-being in the future.

Illustration 5.2 Thatch brooms made by a beneficiary



(Author, 2013)

Illustration 5.3 Repaired thatch roof of a beneficiary's dwelling



(Author, 2013)

Illustration 5.4 Beneficiary's excess thatch to be sold to local community members



(Author, 2013)

As previously mentioned, only one beneficiary had used the thatch that she had harvested as input material for a small entrepreneurial enterprise. However, three other beneficiaries indicated that the money that they had generated from selling their bundles had provided them with the necessary capital they required to start a small business of their own. One of these beneficiaries reported using the money that she had obtained from the bundles to buy a sewing machine in order to launch a small sewing enterprise, and which has since then become an important and consistent source of income within her household. Another one of these beneficiaries indicated having used his money to purchase fresh produce to sell at the local markets, which in turn generated enough to start a sustainable small business wherein he supplies local markets with fresh produce. The last beneficiary indicated that he had used the money generated from harvesting in the 2012 season to purchase enough stock to start a tuck shop close to one of the local schools in Qwa-Qwa. The profit earned from the sales has allowed this beneficiary to build up and maintain this tuck shop as a permanent source of income for his household. Although these businesses are at a very small scale, these entrepreneurial endeavors are indicative of the potential impact that the thatch harvesting

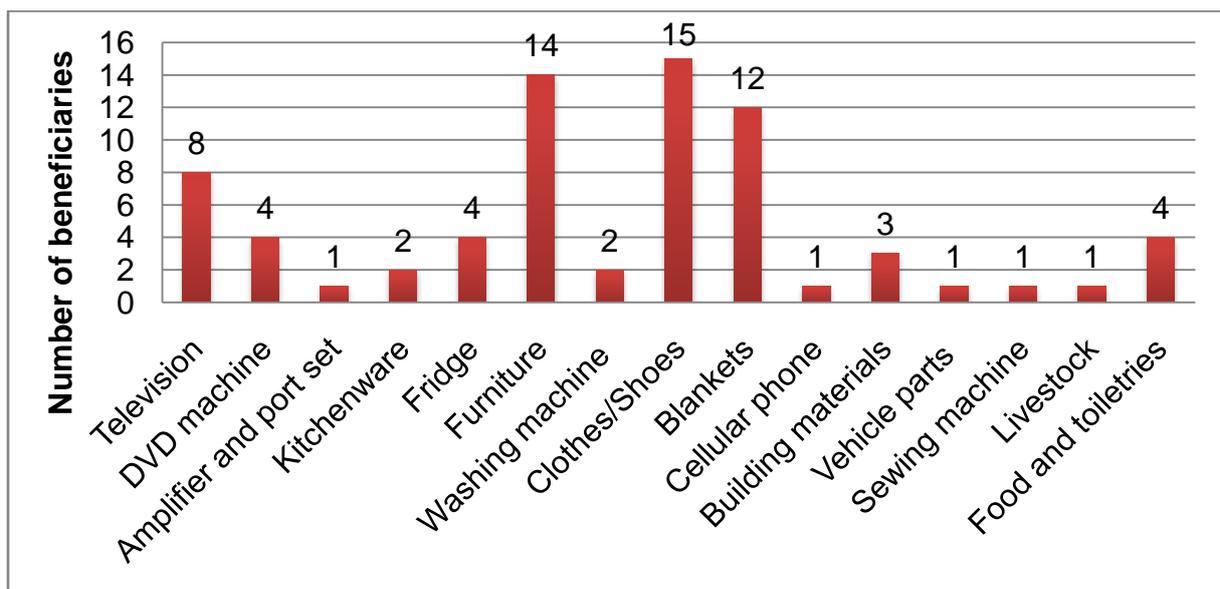
programme might have on stimulating private enterprises which may in turn contribute towards sustaining the economic well-being of the beneficiaries.

The number of beneficiaries who viewed the thatch harvesting programme as a means to start up a private enterprise was nevertheless quite low. This is however, on par with the general trend regarding entrepreneurship in South Africa. According to a recent study conducted by Statistics South Africa (2014) on entrepreneurship in South Africa, only 37.8% of South Africans believed that there would be good opportunities to start private enterprises in their area within the next six months. Moreover, this same study (Statistics South Africa, 2014) also revealed that only 42.7% of the adult population in South Africa deemed their knowledge, skills and experience to be sufficient enough to start a new business. That the majority of the beneficiaries indicated that they had sold their thatch to a harvesting coordinator rather than use the bundles to start-up a small business of their own also provides us with some insight into their perceptions regarding their capability to have materialist control over their environment (Nussbaum, 2007). This negative perception may in turn limit their capability to augment their sense, imagination, thought, and understanding (Nussbaum, 2007; Costanza *et al.*, 2007), and subsequently their perceptions regarding their ability to access human capital and exercise freedom and choice (Throsby, 1999; MEA, 2003; Fukuda-Parr, 2003).

In terms of the income that was generated from participating in the programme, all 34 beneficiaries were however, able to purchase a number of items. This is indicative of an improved material well-being. The ability of the beneficiaries to purchase assets with the income that they had obtained from participating in the thatch harvesting programme suggests an improved access to needs and capabilities in the form an increased materialistic control over their environment, wherein they are able to hold and have rights to property on a basis that is equal or equivalent to other individuals (Nussbaum, 2007; Costanza *et al.*, 2007). As illustrated in Figure 5.6, only four (11.8%) of the 34 beneficiaries indicated that they had used their income obtained from the thatch harvesting programme to put towards buying non-durable items such as toiletries and food, whilst a large proportion of the beneficiaries reported having purchased at least one durable household item such as a television (23.5%), DVD machine (11.8%), amplifier and

port set (2.9%), kitchenware (5.9%), fridge (11.8%), furniture (41.2%), and/or a washing machine (5.9%). A number of beneficiaries also indicated having used their generated income to purchase personal items such as clothing and shoes (44.1%), blankets (35.3%), and/or a cellular phone (2.9%). Some of the income generated from the thatch harvesting programme also went towards improving existing assets such as the purchase of building materials (8.8%) or vehicle parts (2.9%), whilst one (2.9%) beneficiary indicated having used the money to purchase livestock. Finally and as previously mentioned, one (2.9%) beneficiary indicated having used her income from the harvesting season to purchase a sewing machine for her start-up business. Compared to the relatively small proportion (11.8%) of the beneficiaries that had used the money that they had received in order to sustain their subsistence needs such as food and toiletries, a significant number of the beneficiaries reported having used the income received from harvesting as a means to purchase items that were previously unobtainable. This can be supported wherein one beneficiary stated: “I was able to buy a nice bed and thick blankets with my money. I never have to sleep on the floor again!” Taking this into consideration, it appears that participation in the thatch harvesting programme may indeed contribute, to some extent, towards improving the material well-being of the households benefitting from the programme.

Figure 5.6 Items purchased by beneficiaries with income generated from the thatch harvesting programme



However, in conjunction to these findings another important element comes to light. Whilst much weight was placed on the ability to purchase previously unobtainable items, very little emphasis was put on intangible expenditures such as education that would in turn improve their quality of life in the long term. Drawing from this, it is clear that the beneficiaries deemed the satisfaction of their short-term material needs as much more important than obtaining long-term and sustainable material well-being that could be accomplished by furthering their education or putting money into a savings plan. Only one (2.9%) beneficiary indicated having used some of the income that he had generated from the programme to go for driving lessons, which he hoped would improve his ability to find permanent employment as a truck driver.

Subsequently, whilst the programme has indeed managed to improve the short-term material well-being of the beneficiaries, prospects towards ensuring long-term material well-being did not improve by much. This is evident wherein at least 65% of the beneficiaries reported that they were unable to find another form of employment and thus struggled financially. Only six (17.7%) of the beneficiaries indicated that they were able to find sporadic employment within the GGHNP. This included repairing perimeter fencing, working at the stable yards, or participating in one of the other poverty alleviation programmes offered by the park. Consequently, whilst the programme has aided in benefitting the short-term material well-being, the long-term benefits of this programme have yet to be realised.

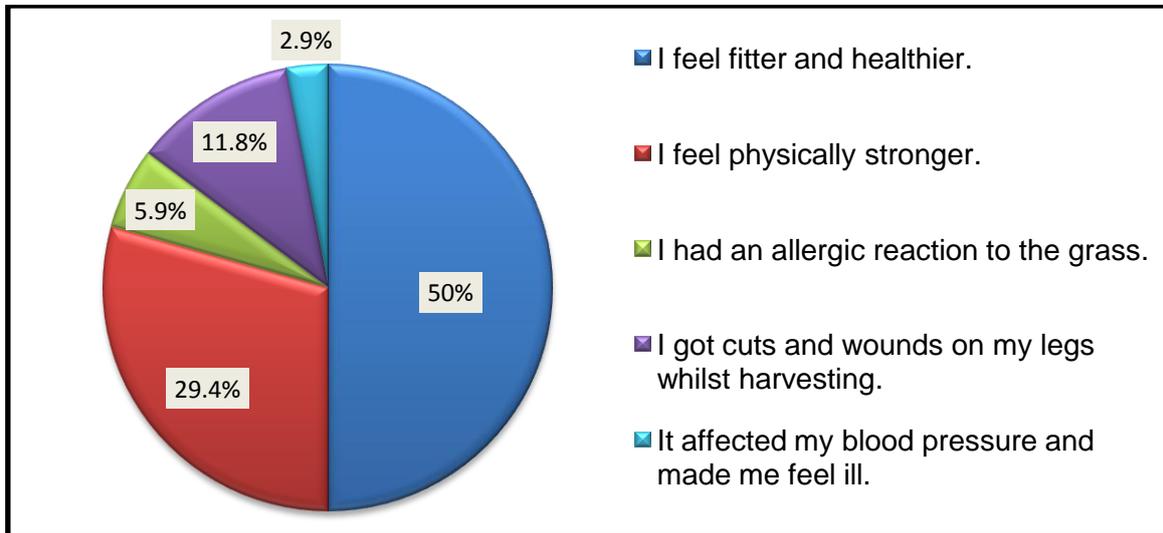
5.3.2.2 The health dimension

To briefly recapitulate the literature presented within Chapter 2, the health dimension of well-being pertains to the ability of individuals to live in a healthy physical environment and to feel well and be strong (MEA, 2003). Subsequently, the following findings serve to highlight the impact of the thatch harvesting programme in terms of the physical, emotional and psychological well-being of the sampled beneficiaries.

With regards to Figure 5.7 which represents the impact of this programme on the beneficiaries' physical well-being, 27 (79.4%) of the beneficiaries indicated that the programme had positively contributed towards this dimension of their life. Of this group, 17 beneficiaries stated that they felt physically fitter and healthier after

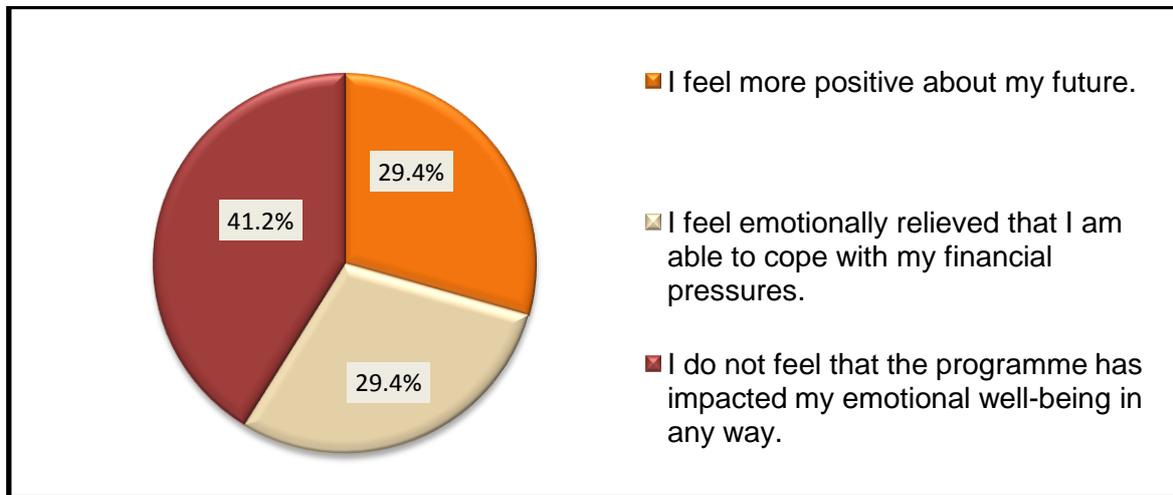
participating in the programme, whilst the other 10 beneficiaries indicated that harvesting the grass had made them feel physically stronger.

Figure 5.7 The impact of the programme on the beneficiaries’ physical well-being (N=34)



However, during the interviews seven (20.6%) beneficiaries indicated that participating in the programme had negatively impacted their physical health (Figure 5.7). Of this group, two of the beneficiaries interviewed reported suffering from health issues such as having allergic reactions to the grass. A further four beneficiaries indicated that they had suffered from severe cuts and wounds on their legs and arms whilst harvesting, and which had taken a long time to heal. Further inquiry into this revealed that the beneficiaries are not provided with any form of protective clothing such as gloves and safety boots which would prevent such injuries from occurring. One beneficiary indicated that she has problems with her blood pressure and that the hard labor from harvesting had worsened her condition and made her feel ill. She resignedly stated, “But what choice do I have? I must work”. Despite this, the negative impacts on physical health are not experienced by the majority of the beneficiaries. Of the 27 beneficiaries who had reported experiencing a positive impact on their physical well-being as a result of participating in the programme, none mentioned any negative health impacts as a result of their involvement.

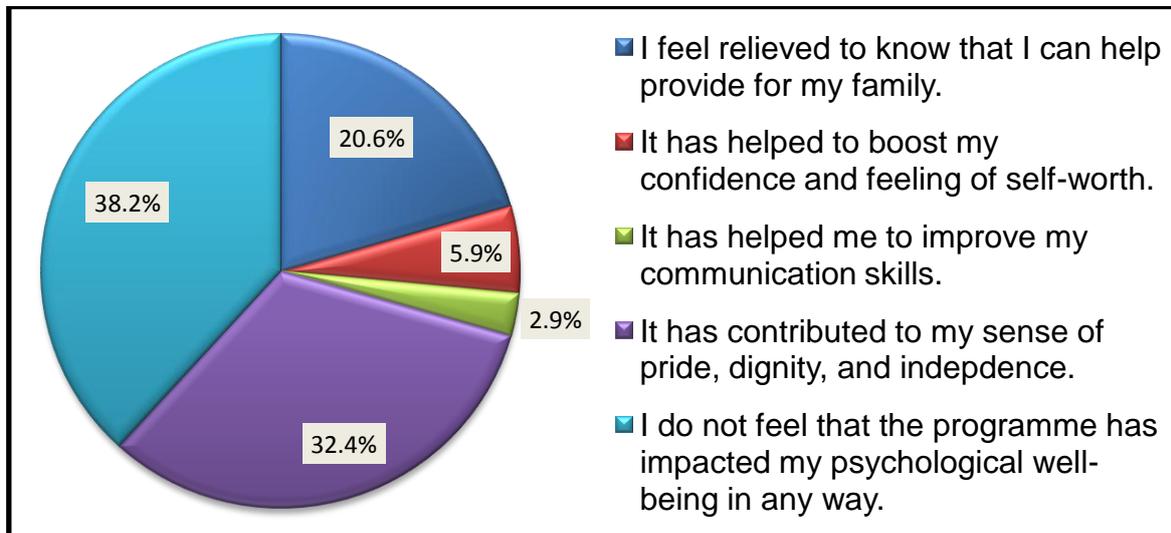
Figure 5.8 The impact of the programme on the beneficiaries' emotional well-being (N=34)



Findings illustrated in Figure 5.8 regarding the beneficiaries' overall sense of emotional well-being revealed that the thatch harvesting programme had significantly benefitted many of the interviewed beneficiaries. As many as 20 (58.8%) of the beneficiaries reported that the programme has positively contributed towards their emotional well-being. As can be seen in Figure 5.8, ten (29.4%) of these beneficiaries indicated that participating in the programme had made them feel more positive about their future, whilst the other 10 (29.4%) beneficiaries also stated that they had experienced emotional relief because they were able to cope with their financial pressures.

Finally, of the 21 (61.8%) beneficiaries who had indicated that the programme had positively contributed towards their psychological well-being, seven (20.6%) reported having experienced a sense of relief in knowing that they were able to provide for their family. Two (5.9%) of these beneficiaries reported experiencing a boost in their confidence and feelings of self-worth, with one of these beneficiaries expressing: "I felt proud of myself for being able to bring money home for my family". Another beneficiary (2.9%) also stated that whilst participating in the programme, he had been able to improve his communication skills and which had consequently boosted his confidence as well. Eleven (32.4%) of the sampled beneficiaries also indicated that the programme had contributed to their sense of pride, dignity and independence (Figure 5.9). One beneficiary even announced: "This programme has been a God-send for my family. I feel so blessed!"

Figure 5.9 The impact of the programme on the beneficiaries' psychological well-being (N=34)



Drawing from these findings, the general consensus amongst the beneficiaries was that they were very happy to be able to participate in the thatch harvesting programme. These positive perceptions of SWB since joining the programme indicate that not only has the programme contributed towards the beneficiaries need for identity with regards to feelings of differentiation and recognition; but it has also contributed towards the need for affiliation, wherein respect, dignity, equality and receptiveness are key factors (Nussbaum, 2007; Costanza *et al.*, 2007; Diener & Suh, 1997).

5.3.2.3 The dimension of good social relations

Recounting the previous literature expressed within Chapter 2, the dimension of good social relations portends to that which can be observed through the degree to which an individual experiences social cohesion, mutual respect, and good family and gender relations (MEA, 2003). An important element pertaining to social cohesion can also be derived from the experience of affiliation. Herein Nussbaum (2007) states that affiliation portends to the capability of humans to envision the circumstances of another entity, and to acknowledge and display concern for this entity as well. Furthermore, group cohesion would be unobtainable without experiencing a sense of affiliation with a group. As was also previously mentioned in

the health dimension, key factors of affiliation include experiencing a sense of dignity, respect, receptiveness and equality (MEA, 2003). Taking this into consideration and based on the findings presented in this study, the thatch harvesting programme has indeed positively contributed towards satisfying the beneficiaries' need for affiliation in two ways, the first being in relation to the communities that the beneficiaries form a part of, and the second being in relation to the GGHNP itself¹⁹.

When asked about how their family and the community felt about their involvement in the thatch harvesting programme, a very large proportion of the beneficiaries expressed a number of positive sentiments. Thirty (88.8%) of the beneficiaries stated that their family members were very proud of them because of the income they were able to generate from the programme. Twenty five (73.5%) of the beneficiaries also indicated that the community was very proud of them for working in the thatch harvesting programme. Almost one in every four beneficiaries (23.5%) nevertheless indicated that some of the community members were jealous because they themselves had not been able to obtain permits to harvest. Despite this, the predominantly positive perception about the beneficiaries' involvement in the programme may serve to bolster feelings of affiliation with the community and thus augment their sense of group cohesion. It is important to highlight that this section gave the beneficiaries an opportunity to provide multiple responses.

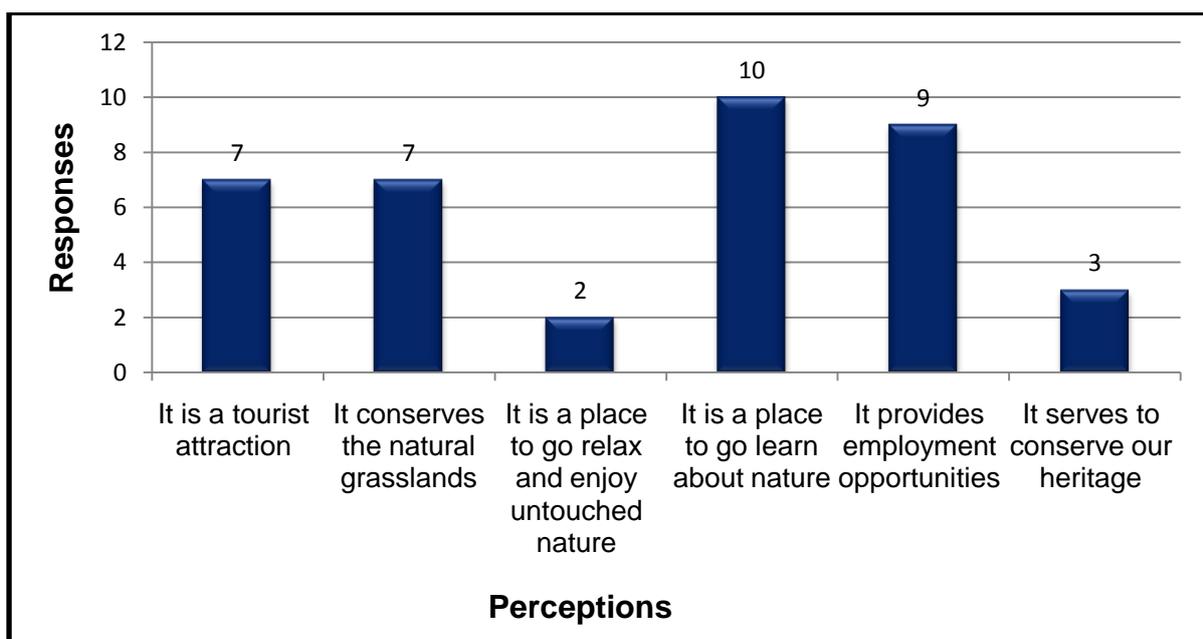
As it turns out, the GGHNP also serves as an essential cohesive constituent in the lives of those communities surrounding the park. A substantial proportion of the beneficiaries (76.5%) stated that they often travelled through the GGHNP to reach nearby towns such as Clarence and Bethlehem. This suggests that the GGHNP serves to connect people from the different surrounding communities to one another. Moreover, the park is also used by local community members as a place to conduct spiritual and cultural activities, and is also often used for leisure and recreational

¹⁹ It is important to note here that in conjunction with the impact of this programme on the beneficiaries with regards to good social relations, this subsection also serves to gauge the potential second order impact of this programme with regards to the perceptions of the larger community as well as the potential benefits that the local community may receive from the park.

purposes. Indeed, seven (20.5%) beneficiaries indicated that they had used the park for cultural and spiritual activities such as for initiation ceremonies and meditation, and three (8.8%) of the beneficiaries reported having used the GGHNP services for leisure and recreational purposes. Whilst this proportion may appear to be quite small, consideration must be given in context to the high levels of poverty and unemployment that are prevalent within the region and which may subsequently restrict their ability to travel to and from the GGHNP unless absolutely necessary.

In addition to this, taking into consideration the frequency at which the surrounding communities make use of the GGHNP services, it is important to gauge the extent to which these communities feel an affiliation towards the park and subsequently conservation in general. This sense of affiliation also notably overlaps with the capability of people to develop relationships with other species and the world of nature, which according to Nussbaum (2007) signifies the ability of people to develop good relations with plants, animals and the entirety of nature. Accordingly, Figure 5.10 below serves to illustrate the beneficiaries' perceptions regarding the importance of the GGHNP as a conservation area. It is important to note that the beneficiaries were allowed to offer more than one response in this section.

Figure 5.10 The beneficiaries' perceptions about the importance of the GGHNP as a conservation area



Based on the findings presented in this study, all of the beneficiaries believed that the GGHNP is an important entity. As can be seen in Figure 5.10 above, the two most frequent responses given by the beneficiaries to corroborate this sentiment was that the park provides a place to go where one can learn about nature, and that the park also offers potential employment opportunities. Indeed, one beneficiary asserted that: “This park is a place where children can see and learn about wild animals. They can’t just learn from books, they must experience it as well”. In addition to this, seven beneficiaries felt that the GGHNP was an important entity because it acted as a tourist attraction. Many of the beneficiaries regarded tourism as an important factor because it provides the local communities with opportunities to sell their wares to the parks visitors in the form of pots, brooms, baskets, mats, hats and jewellery.

Several beneficiaries also believed that having a protected area serves to conserve the natural grasslands which is a direct source of income for them. Subsequently, a large proportion (94.1%) of the beneficiaries stated that no-one should be allowed to graze their cattle in the park, live in the GGHNP and/or harvest the grass whenever they wanted to, as the opportunity to harvest good quality grass would thus be significantly reduced. These beneficiaries also indicated that it is important to set rules and boundaries in the conservation policy in order to not only protect the ecosystem services, but to also ensure the future sustainable utilisation of its natural resources. Indeed, when asked if they agree with the conservation policy, one beneficiary asserted: “Yes, I agree with the policy because the people working at the park are informed and have knowledge about why the land must be protected. They know what is best and must have good reason to make the laws”. Three beneficiaries also indicated that the GGHNP served to conserve and protect their heritage – a heritage which they felt was an essential and valuable part of their culture and which they hoped their children and future generations might enjoy as well. Herein, it is clear that the GGHNP has to some extent also augmented the beneficiaries’ perceived cultural values by means of providing cultural capital in the form of protected heritage sites located within the park. Finally, two beneficiaries emphasised the aesthetic value (Bengston, 2000) of the GGHNP in that it was a place where one could go to relax and enjoy the beauty of untouched nature.

According to the MEA (2003), this may also be indicative of the ability of this protected area to provide a cultural service for its' local community.

Almost all of the beneficiaries felt that the GGHNP should remain a protected area, despite the fact that this means that access to the park's resources is restricted. Twenty six (76.5%) of these beneficiaries also expressed that the park should remain a protected area as it plays an important role in preserving nature as well as the local heritage. Only two (5.9%) beneficiaries felt that the land should be utilised for economic purposes rather than for conservation. These beneficiaries felt that there was not enough grazing for cattle and that the land should be put to use for that purpose. Based on these findings, it is clear that the large majority of the beneficiaries experienced a sense of affiliation towards the GGHNP. Their responses also indicated that they were aware of the important role that the GGHNP plays in protecting the land, and that they benefit greatly by having a protected area so close to their local community. Concurrently, as a large proportion of the beneficiaries believed the GGHNP to be an important entity, these findings may also potentially serve to reflect the general perceptions of the community with regards to both the instrumental and non-instrumental value of the park (Bengston, 2000; Blaikie & Jeanrenaud, 2000).

5.3.2.4 The security dimension

As was highlighted in Chapter 2, the security dimension of well-being can be described as an individual's ability to live in a safe environment, and wherein they are able to access natural resources (MEA, 2003). Based on this, the findings presented within this study reveals that the thatch harvesting programme has to some extent contributed towards improving the ability of the beneficiaries to gain secure access to natural resources. This is done by allowing them to harvest thatch for household use, and which can also be used to improve their material well-being. By participating in the programme, many of the beneficiaries' knowledge regarding the importance of conservation and their knowledge of the natural environment has improved to some extent as well. However, only four (11.8%) of the beneficiaries reported having received some form of environmental education from the park, whilst

another seven (20.6%) beneficiaries indicated that they had received information from a harvesting coordinator in this regard. The information provided to the beneficiaries included the common rules applicable within many protected areas such as “do not kill the animals”, “do not litter rubbish in the park”, “you may not start fires in the park”, and lastly, “do not destroy other plant life within the park”. This kind of information is vital in helping the beneficiaries secure their access to natural resources - in this case the thatch grass - and which also serves to empower the beneficiaries in securing themselves against the event of potential human-made and natural disasters such as veld fires, the latter being a very real hazard in a grassland environment such as the GGHNP. However, it is important to note that 23 (67.6%) beneficiaries indicated that they had not received any form of environmental education at all, and that much of their knowledge regarding how to comport themselves whilst in the park was gleaned from a general knowledge that they had gained from others over time. In addition to this, the information supplied by the harvesting coordinators and the park officials was limited at best. Upon further enquiry, the importance of these elements to the conservation and protection of the park was not clearly conveyed. Thus, in order to better secure their access to the natural resources offered within the park, a more formal and explanatory form of information provided to the beneficiaries might prove useful and advantageous to all parties involved.

With regards to the correct procedures and techniques used to harvest thatch, the majority of the beneficiaries (87.9%) indicated having prior knowledge of this activity. This knowledge is a vital tool in enabling beneficiaries to effectively access the thatch resources. Of those beneficiaries who indicated having prior knowledge about harvesting, 22 beneficiaries reported that some of their family members had taught them how to harvest thatch whilst growing up. A further seven beneficiaries indicated that their harvesting coordinator had, over the years, taught them how to harvest the grass, how to cut, tie, and/or store the grass after harvesting, as well as how to identify the appropriate length and thickness of the grass that should be cut. The remaining four (12.1%) beneficiaries indicated that they had participated in the thatch harvesting programme without any prior knowledge, and that they had received only a brief form of training on site by their harvesting coordinator. Furthermore, when asked if they had received any form of harvesting training from the GGHNP, all of the

beneficiaries indicated that they had not. It is fortunate then that one of the harvesting coordinators was able to offer knowledge in this regard, and a number of the beneficiaries expressed their gratitude towards this harvesting coordinators' assistance as they would have harvested the wrong types of grasses, or the wrong length and thickness without appropriate guidance. This indicates that there is a need, at least to some degree, for a more prescribed form of training and education regarding harvesting; because had this harvesting coordinator not been present to offer guidance a number of these beneficiaries may have harvested inappropriate and unusable grass that would have not only served to waste the natural resources within the GGHNP, but would have also wasted the beneficiaries' valuable time.

In addition to this, formal training and education regarding harvesting will serve to bolster the beneficiaries need for sense, imagination and thought, which according to Nussbaum (2007) can only be achieved through this form of development, and wherein being able to do things in an informed and cultivated way is essential. Further education and training in this regard will also aid in reducing grass wastage, which will in turn also serve to secure the beneficiaries access to this natural resource.

Drawing from this, participation in the programme has, at least to some extent, enabled the beneficiaries to gain access to natural resources. Further training and education regarding the harvesting of thatch would also serve to further bolster this dimension of well-being. The information supplied by the park officials and one of the harvesting coordinators' has, within the context of the harvesting activity itself, provided the beneficiaries with some form of knowledge that may aid in securing them against natural and human-made disasters which is, in this case veld fires; and one of the most commonly expected natural disasters occurring in a grassland environment. Moreover, this form of security also extends beyond the beneficiaries day-to-day harvesting. As previously mentioned in the dimension of material well-being, one of the beneficiaries stated that she uses some of the harvested thatch to repair the roof of her dwelling, whilst another three beneficiaries indicated having used the money generated from selling their harvested thatch to purchase building materials that was then used to repair and improve their houses. This in turn means that the thatch harvesting programme was able to provide these households with the

natural and built capital needed to enhance their the capability to access bodily health wherein they were able to use the thatch grass to restore and maintain adequate shelter (Throsby, 1999; Costanza *et al.*, 2007; Nussbaum, 2007). As a result of this, the beneficiaries were also able to augment their ability to attain security of subsistence in the future, thereby also reducing their vulnerability to ecological shocks and stress (Costanza *et al.*, 2007; MEA, 2003).

5.3.2.5 The dimension of freedom and choice

In reiteration of the literature presented within Chapter 2, the MEA (2003) dimension of freedom and choice is consigned to an individual's ability to have control over their lives and their values or being. For many of the beneficiaries, life before participating in the programme was difficult. Eleven (32.4%) of the beneficiaries indicated that prior to working on the programme they had felt helpless because they had stayed at home doing nothing whilst their families had to struggle to find money to sustain the basic needs of those living within their household. Through the income generated by participating in the programme the beneficiaries were able to expand on their choices regarding their immediate consumption patterns, and in some cases their future well-being. This is apparent in the various ways in which the beneficiaries chose to spend the income that they had obtained from the thatch harvesting programme. Some of the beneficiaries reported using the thatch to repair and improve their dwellings, or alternatively that they had used the income generated to enrol for driving lessons, purchase appliances and electronic equipment, or even to use as start-up capital for a small business. Being able to purchase equipment such as a sewing machine in order to start a small enterprise is subsequently indicative of an improved access to both natural and built capital (Throsby, 1999; Costanza *et al.*, 2007), wherein these beneficiaries are able to expand their future choices and thus their future well-being (MEA. 2003).

Taking the above findings into consideration, the following section will serve to highlight the challenges faced by the thatch harvesting programme and the beneficiaries' responses to possible ways in which the programme can be improved.

5.3.3 Responses from the commercial companies

As previously mentioned in the methodology (Chapter 3), one of the harvesting coordinators' was able to provide the contact details of two commercial companies that principally purchased the grass after harvesting in the GGHNP, namely Biggarsberg Thatchers and Thatch Craft. Both these companies were contacted and interviewed telephonically in order to determine the potential third order impact of the programme. During these interviews the level of the commercial companies' involvement with the beneficiaries, and a number of issues pertaining to the thatch that they had received in the past from the GGHNP were also addressed and discussed, along with potential solutions to these challenges.

Both of the commercial companies indicated that their level of involvement extended only as far as purchasing the harvested bundles upon delivery, and that they are not in any way involved in the recruitment of the beneficiaries, transporting the thatch, or in the operation of the thatch harvesting programme.

With regards to the challenges faced by these commercial companies, one of the key issues identified during the interviews was the lack of knowledge, skills and training of harvesters in terms of correct methods of harvesting thatch. This has resulted in both of these companies receiving, at some point in time, bundles of thatch not suitable for use. Challenges included the grass still being green when harvested, it was the wrong species of grass, the thatch was not straight, it was too thick, and/or it had not been cleaned properly. These challenges pose as major concerns regarding the sustainability and potential opportunities of this programme in the future. For instance, grass that is still green when cut means that the seeds have not yet had time to dry and drop from the stalk. The premature harvesting of these grasses may therefore result in the absence of future re-growth which could severely jeopardise the availability and sustainability of harvestable grass at the GGHNP in the future.

In addition to this, both companies strictly conform to the South African Bureau of Standards (SABS) wherein the thickness, length, species and quality of the thatched bundles are core principles and must be stringently adhered to. Subsequently, these companies are forced to return grass that is unsuitable for use without payment or

any form of transport subsidy. Not only is this a waste of natural resources, but it also threatens the livelihood of these companies in that they rely heavily on the supply of thatch from harvesting coordinators such as the one based in Qwa-Qwa. Augmenting this is also the negative impact that this will have on those harvesting coordinators who provide the thatch. The cost of transporting the grass from the GGHNP to the aforementioned companies is only viable if the grass can be sold upon arrival, and the return of unsuitable grass can result in harvesting coordinators facing disgruntled laborers coupled with payment disputes. These issues can serve to heavily undermine the development of these budding entrepreneurs, and may result in the harvesting coordinators being forced to cease his/her operations. Even more worrying in a situation like this is the fact that those harvesters who had vested their time and physical energy to harvest the grass, must return to their homes empty-handed. Drawing from this, the lack of knowledge coupled with poor skills and inadequate training, all have the potential to create a trickle-down effect that poses as a major challenge to the sustainability of this project.

In order to prevent a situation such as this an intervention of sorts is necessary. Upon enquiry, one of the commercial thatching companies indicated that they would be willing to provide training sessions to those beneficiaries who have been granted permits to harvest at the GGHNP, wherein the beneficiaries would be provided with information regarding matters such as the environmental impact of harvesting, how to identify the correct species of grass, the correct way to cut the grass²⁰, the required length and thickness of the grass, and how to properly clean the bundles for sale. Not only will this improve the knowledge base, skills and efficiency of the beneficiaries, but it will also serve to enhance the sustainability and viability of the thatch harvesting programme in the future.

5.3.4 Challenges faced by the park and the beneficiaries participating in the thatch harvesting programme

Whilst the programme appears to have positively contributed towards improving the overall well-being of the beneficiaries and their families, the beneficiaries also

²⁰ Grass must be cut above the first node in order to prevent the grass from distorting and growing back skew.

indicated having experienced some challenges whilst participating in the programme. In light of these challenges, the beneficiaries were encouraged to offer some suggestions regarding how the programme might be improved for those beneficiaries participating in the future.

Table 5.5 Challenges experienced and suggestions for improvement

Challenges	N*	Suggestions for improvement	N*
Insufficient time to harvest grass.	18	More time should be given to harvest.	16
They (the park) do not provide tools/equipment.	10	The park should provide tools/equipment for harvesting of thatch.	14
Rangers treat us badly when we are there to harvest.	5	The park should provide toilet facilities.	12
Fires destroy our income. We rely on being able to cut grass.	5	The park should burn fire breaks earlier to protect the grass.	6
The park does not advertise the programme early enough.	2	The park should provide training to improve harvesting skills.	4
It is difficult to find buyers.	1	The park should help us find people to buy our bundles of grass.	3
		The park should advertise the programme earlier.	2

* The N-values in table 5 indicate the number of beneficiaries who identified each issue. The beneficiaries could indicate more than one challenge or suggestion, or nothing at all.

Based on the findings presented in Table 5.5, more than half of the beneficiaries indicated that the time allocated for harvesting the thatch was too short. Almost one third of the beneficiaries indicated that they were unhappy that the GGHNP did not provide tools or equipment for them to use whilst harvesting. Apart from the truck driver, all of the beneficiaries from the sample indicated that the tools and equipment needed to harvest were not provided for and that they were thus required to bring their own tools and equipment such as sickles, wire, safety boots and gloves. In terms of this, 14 of the beneficiaries suggested that the park should equip them with the necessary harvesting tools.

In addition to this, five beneficiaries indicated that some of the rangers had treated them badly whilst they had been harvesting. Another five beneficiaries also indicated

that wild fires pose as a major challenge as it destroys much of the grassland resources, therefore diminishing their ability to harvest thatch and subsequently generate an income. As a result of these fires destroying the viable grass allocated for harvesting in 2013, a few beneficiaries reported having harvested grass in areas not designated by the park. It is important to note that allocating specific areas for harvest is a lengthy process and piquant attention is paid to the impact that the harvesting will have on the flora and fauna found within the area, as well as whether or not the species of grass is suitable for harvesting. Subsequently, should the beneficiaries begin harvesting outside of an allocated area, not only do they run the risk of harvesting unsuitable grass but they may also have an injurious effect on a specific species that the park has undertaken to protect.

In addition to this, one of the harvesting coordinators indicated that the boundaries of the allocated areas for harvesting in 2012 were unclear, and that by the time this discrepancy was rectified, the beneficiaries had already harvested a significant proportion of grass outside of the assigned perimeters. During the focus group session the park officials indicated that they were aware of this challenge and, with the assistance of a harvesting coordinator; would in future allocate harvestable areas more carefully and also demarcate these areas more clearly so as to prevent people from harvesting in undesignated areas.

Some of the beneficiaries also felt that the park does not do enough to advertise the programme in a timeous manner. This leaves potential beneficiaries with little time to apply for permits in order to participate in the programme. Moreover, when asked how they became aware of the thatch harvesting programme offered at the GGHNP, 14 (41.2%) beneficiaries indicated that they had heard about the programme from friends and/or family. A further 14 (41.2%) beneficiaries stated that they had become aware of the programme when a harvesting coordinator had approached them to ask if they would like to participate in the programme. Only three (8.8%) beneficiaries reported having gained awareness through advertisements in the form of broadcasts on the radio and notices posted at the main library in Qwa-Qwa. Finally, a small number of the beneficiaries (8.8%) indicated having heard about the programme from the park rangers that worked within the GGHNP. Taking this into consideration, whilst the manner in which these beneficiaries gained knowledge regarding the

opportunity to participate in the programme is seemingly effective, there is no uniform method in which potential beneficiaries might gain access to knowledge regarding the application process, i.e. when the time for applications are open for processing, what the deadline is for these applications, when they can find out whether or not they have been granted permits, when they will be able to pick up these permits, the times that they might gain access to harvest in the GGHNP, how to gain access to a harvesting coordinator should they wish to sell their harvested grass, and so forth.

Additionally, when asked if they had experienced any other problems with the application process, only seven (20.6%) beneficiaries indicated that they had not experienced any difficulties, whilst 19 (55.9%) beneficiaries felt that the process took too long. Some of these beneficiaries added to this by stating that, by the time the permits were granted, the period for harvesting had already begun and that this increased the risk of fires destroying the grass before they could harvest. The remaining eight (23.5%) beneficiaries expressed having felt frustrated during the application process because they did not know when to pick up their permits, or even if their application had been successful or not. Keeping this in mind, the park officials also reported that in 2012 there had been a number of individuals that had come to harvest before, during and after the time allotted for harvesting, without having received valid permits from the GGHNP. This made it difficult to ascertain and monitor who had permits to harvest and who did not. It must also be noted that during the interviews with the beneficiaries it transpired that a few of those who had harvested in 2012 were individuals who do not reside in the local community as defined by the GGHNP. Some of the beneficiaries reported that these individuals had borrowed identity documents from members of the local community to pass off as their own in order that they might harvest. This challenge is an important one, as the purpose of the programme is to benefit only the local communities surrounding the park. Subsequently, illegal harvesting poses as a major challenge for the park and for the local communities who should benefit from access to the natural resources it provides.

Moreover, whilst conferring with one of the harvesting coordinators it became apparent that obtaining a consistent number of beneficiaries to harvest throughout

the harvesting season often proved difficult. Taking into consideration the short time frame available to harvest, this harvesting coordinator indicated that he had been forced to recruit unregistered beneficiaries from the local community to harvest in the place of those beneficiaries' who were absent. The harvesting coordinator stated that this was only done as a result of the need to fulfil the quota necessary to make his business venture financially viable. However, this action still demarks the purpose of obtaining permits which is crucial for monitoring and supervision processes.

Furthermore, there appeared to be a miscommunication between the park management and the local community with regards to the nature of the programme. This discrepancy became evident during the focus group session with the park officials wherein it was reported that many of the local community members perceived the thatch harvesting programme to be a source of employment, when this programme is in fact only offered as an opportunity for the participants to utilise the park's natural resources for their own benefit. In addition to this, the park officials also indicated that the GGHNP has established networks that form part of a park forum and wherein there are various traditional leaders that act as representatives within their local communities and who serve to communicate issues of mutual concern. However when asked, none of the beneficiaries were aware of any community representatives, nor of any community meetings being held with regards to those projects made available by the park. Similarly, none of the beneficiaries interviewed reported having heard of any community members being involved in the decision-making of the thatch harvesting programme.

More than one third of the sampled beneficiaries stated that there are no toilet facilities available whilst harvesting and indicated that if possible, the park should provide these facilities during the harvesting season. Indeed, one beneficiary stated, "I am too scared to go to the toilet in the bushes. A snake might jump out and bite me!" According to Nussbaum (2007), it is important for individuals to be able to meet their needs for bodily health. Access to hygienic toilet facilities during the harvesting season would be one way in which the thatch harvesting programme might positively contribute towards this need. Additionally, some of the beneficiaries suggested that the park should also provide training to help improve their harvesting skills. These suggestions from the beneficiaries further strengthen the previously mentioned

statement wherein the need for further training regarding harvesting was emphasised. Lastly, three of the beneficiaries remarked that the GGHNP should assist in helping them find people to buy their thatch bundles. This suggestion merits some consideration. Due to their lack of resources and poor socio-economic status, many of these beneficiaries do not know how to go about finding potential buyers for their thatch bundles. Indeed, one of these beneficiaries stated: “I don’t know how to find people to buy my bundles. I sell my bundles to the harvesting coordinator because he is the only person I know that will buy them”. Taking this into consideration, the need for erudition and assistance can be directly linked to Sen’s notion that development in itself involves expanding the degree to which people can do things, such as to be knowledgeable and skilful (Sen, 2005). This therefore involves removing barriers such as a lack of access to essential resources and information, which Sen also posits is not an end in its own right, but rather a productive step towards constructively impacting human development (Fukuda-Parr, 2003; Sen, 2005).

5.4 The impact of the thatch harvesting programme on the GGHNP grassland ecosystem

With reference to the impact of the thatch harvesting programme on the ecosystem of the targeted areas allocated, the results remain indefinite. The reason for this is because the programme only became active in 2012, and in 2013 a massive fire swept through the parks grasslands subsequently also destroying the areas allocated for harvesting. As a result, a detailed analysis of these areas regarding the grass species composition, vegetation structure, and biomass measure following the harvesting in 2012 has not yet been finalised. A vegetation monitoring process of the two harvested areas has been initiated by the SANParks Division of Scientific Services. However, as the thatch harvesting programme is relatively new, and as this form of monitoring is conducted over a long period of time, no definite conclusions regarding the impact of this programme on the GGHNP ecosystem could be made. Nonetheless, preliminary evidence suggests that the GGHNP grassland ecosystem, along with the processes and patterns associated with it, has not experienced any adverse effects as a result of the thatch harvesting programme.

The two areas allocated for harvesting in 2012 were situated on old agricultural lands. These areas were, in the past, used for grazing and farming. The two main grass species found in these areas, namely the *Hyparrhenia cf. Hirta* and the *Hyparrhenia cf. dregeana*, are typically found in degraded and disturbed areas such as these. As such, the harvesting of these grasses may in fact serve to enhance the lands stability by improving the palatability of the grass for the wildlife that graze within the GGHNP, which in turn will aid in buttressing the natural restoration process of degraded lands such as these.

Despite the visual impact on the allocated harvesting areas wherein the grassland is lower than the conventional 1.8 meters (Species *H. dregeana*), this grass species continues to dominate these areas. Moreover, the harvesting of these grasses may in fact, offer other plant species an opportunity to flourish in an area otherwise subjugated by only one or two other plant species. There were however, some concerns regarding the use of some of the harvestable areas by grass owls (*Tyto capensis*) for nesting. Consequently, in order to determine the impact of the harvesting on this species, a habitat assessment of possible areas has been proposed.

As previously mentioned in Chapter 4, emphasis has been placed on resource use within protected areas as a means of mitigating poverty and redressing social inequality. However, according to Scheepers, Swemmer and Vermeulen (2011), ecological processes predominantly occur over considerably large spatial scales. Therefore, in order to ensure that the grassland biome at the GGHNP is able to retain the ability to renew itself despite resource use, there is also a need to expand the land allocated to this national park.

5.5 Summary

Taking into consideration the poor socio-economic conditions surrounding the GGHNP, there is a palpable need for access to natural resources such as the thatch found within the park. Indeed, ICDPs such as the thatch harvesting programme have become essential for communities adjacent to protected areas, wherein the beneficiaries and their households depend heavily on the income that they can earn

from participating in this type of programme. Even though the direct benefits of this programme only aids a small proportion of the community, the difference to the lives of those residing within the households affected by these benefits is significant and tangible. Therefore, this 'limitation' should not be perceived as a shortcoming or hindrance in the potential impact of the thatch harvesting programme, but should rather serve to underline what is realistically attainable with programmes such as these, and most notably those offered by protected areas and national parks within developing countries. As with other programmes of this kind, the potential impact of the thatch harvesting programme is not so much to drastically reduce the level of poverty amongst a large proportion of households, but should be rather used to promote well-being and positive perceptions pertaining to that of conservation and the benefits of utilising ecosystem services in a sustainable manner. In this way, the need for a specific area to be protected will in turn be enhanced and more readily accepted by the local population, which is essential in facilitating cooperation between the people and the park.

The findings obtained from this study also indicates that the thatch harvesting programme has, to some extent, improved the beneficiaries' material well-being, augmented their physical, psychological and emotional health, enhanced their experience of affiliation and social cohesion, and supplemented their environmental safety; all of which have subsequently provided them with more freedom of choice. The impact of this programme on its beneficiaries is however, for the most part, short-term. Only a small number of beneficiaries have used the income that they generated from participating in the programme to pursue long-term and sustainable economic activities. This is evident wherein only three of the beneficiaries used the generated income as capital to start-up a small business, whilst one beneficiary indicated using the thatch as input for her enterprise, and only one other beneficiary had used the money for driving lessons in order to obtain a truck driver license.

The thatch harvesting programme is at this point, also inhibited by several administrative and logistical issues. Challenges in this regard include permits not being granted in time for the harvesting season, the selection process is unclear and the selected beneficiaries are not verified to ensure that only people from the local communities benefit. Additionally, a lack of supervision by the park officials has also

proven to be a considerable challenge in this regard, wherein methods to ensure that the harvesting does not hamper the conservation function of the GGHNP has been remiss. Furthermore, anecdotal evidence gathered during the interviews points towards grass being illegally harvested. As a result of this, benefits that should extend to the local communities are constrained and limited. This limitation has also been found and substantiated in a study previously conducted at the GGHNP (Taru, Chingombe & Muwada, 2013). Despite the legal framework established in terms of the current park management plan that was compiled in 2011, the administrative procedures regarding the natural resources found within the GGHNP neglects to quantify and account for those resources being harvested by the neighboring communities. More specifically, the park's current management plan does not account for *what* is being harvested, nor the *extent* and *impact* that the grass harvesting might have on the park. This is important because if correctly managed, the thatch harvesting programme can become a long-term and sustainable opportunity that will benefit the adjacent communities and other economic establishments.

As previously mentioned, there is an evident need to supervise, assess and clearly demarcate the boundaries for harvesting in the park. Subsequently, more attention must be paid to the guidelines and limitations in terms of the thatch harvesting programme, and needs to be clearly indicated within the park's management plan. These challenges are however, not exclusive to the GGHNP alone. Published research regarding resource extraction from national parks in South Africa and from protected areas in general, are particularly limited and constrained.

CHAPTER 6

CONCLUSION AND RECOMMENDATIONS

About this chapter

Based on the objectives and literature presented within this study, this chapter serves to provide an overview of the findings, coincided with a detailed discussion regarding various opportunities that may serve to further enhance the potential impact of the thatch harvesting programme on those local communities surrounding the GGHNP.

6.1 Introduction

As previously mentioned in Chapter 4, the last few decades have seen an increasing amount of emphasis being placed on the relationship between environmental degradation and rural poverty (Pelser *et al.*, 2011). However, in situations where households struggle to sustain their already impoverished lifestyles, it has become fundamentally necessary that they gain access to the surrounding environment's natural resources be it for food, shelter, medicinal herbs, general household use and/or as a source for generating an income. However, as was also previously discussed in Chapter 2, the consequences of allowing people full access to these ecosystem services would prove detrimental and thus warrants a significant amount of consideration. This is most problematic, especially for those rural settlements surrounding protected areas, wherein the conserved area is flanked by impoverished communities desperately in need of the very resources that they are compelled to protect. Taking this into consideration, it has indeed become paramount that the capabilities of ecosystem services must be managed in such a way that the needs of these communities can be met, as far as possible; without compromising the sustainability of the protected biomes (MEA, 2003).

In South Africa, SANParks has similarly adopted this philosophy within its conservation policy, and in an effort to support ICDPs as a means of assuaging these needs many projects such as the thatch harvesting programme have been launched. Projects such as this have the potential to not only build rapport between people and parks, but may also serve to provide impoverished communities with access to the means needed to improve their well-being, and in the process may also aid in providing previously unskilled individuals with a set of skills and knowledge that they can use throughout their lives.

Taking this into consideration, the broad aim of this research venture was to determine to what extent the thatch harvesting programme offered at the GGHNP had augmented the well-being of its beneficiaries. An evaluative research design was used during this study wherein the outcome analysis involved determining the extent of this programmes' success, the challenges that this programme has encountered, the degree to which the thatch harvesting programme has augmented the well-being of the direct beneficiaries participating in the programme, the extent to which this programme has successfully reached the intended population, and lastly, to determine how this programme might be improved upon in the future.

6.2 Conclusions

Despite the administrative and logistical challenges faced by the thatch harvesting programme, the findings presented within this study indicate that this programme has indeed benefitted the park's neighboring communities both subjectively as well as objectively. The data offers evidence that this programme has aided in enhancing the overall well-being of the beneficiaries by augmenting their experience of environmental security and by improving their capability to maintain good health. The programme has also aided in the development of good social relations between both the local community members as well as towards the park itself. Additionally, the programme has also increased, to some extent, the beneficiaries' access to basic material for a good life, and subsequently their freedom and choice (MEA, 2003).

As previously mentioned in Chapter 5, although the thatch harvesting programme was able to improve the material well-being for all of its beneficiaries, the benefits accrued from the programme were predominantly used to satiate short-term needs. Indeed, the majority of these beneficiaries reside in households that live hand-to-mouth wherein their ability to achieve freedom and choice (MEA, 2003) is severely limited by their lack of access to those resources necessary to meet even their most basic needs. It is not surprising then that many of these beneficiaries place a higher internal value on fulfilling their immediate needs by purchasing items such as food, furniture and clothing, that may at least to some extent fulfil their need to sustain their bodily health and to have materialist control over their environment (Nussbaum, 2007; Costanza *et al.*, 2007). However, because of the higher internal value placed on these items, very little consideration is given to meeting long-term needs such as future financial security or quality and future education. In point of fact, the poor socio-economic conditions evident in the majority of the sampled households means that very few of these households are able to use their income to provide the younger dependents with access to quality primary and secondary education, let alone to put money aside for their tertiary education in the future. Coupled with the low education attainment of the household heads, a pattern and cycle of deprivation becomes apparent. The reality is that their impoverished circumstances, low education attainment, and a lack of access to basic resources have all interlocked to result in the continued generation of unskilled and unqualified adults which may severely impede their ability to find stable and permanent employment, and which is also a poignant reminder of the need to explore ICDPs such as the thatch harvesting programme.

That the large majority of these beneficiaries prefer to sell their bundles rather than use them to start-up a small business reveals an impoverished community driven by the urgency to meet their immediate needs. The reluctance to risk investing in the start-up of a small enterprise may also indicate a lack of confidence amongst the beneficiaries, wherein they perceive their knowledge, skills and/or experience to be inadequate.

In light of this, potential training sessions and workshops that may serve to strengthen and broaden the beneficiaries' knowledge of the resources available to

them should be strongly considered. This access to knowledge may open up more opportunities for the beneficiaries to find potential buyers for their thatch or manufactured goods. These forms of erudition may also provide potential and current beneficiaries with the knowledge, skills and confidence to start-up their own small business, thus enhancing their capability to break free of the cycle of deprivation and dependence which severely constrains their ability to improve their quality of life in the future.

Realistically, the ability of the GGHNP to contribute towards sustainable development is constrained by its limited resources, and as such any training offered may only impact a small proportion of the TMDM population. However, despite the small-scale impact of this programme evidence shows that for those that do participate, the benefits are palpable and serve to augment their well-being in terms of meeting their immediate needs. Indeed, for some beneficiaries it has aided in helping them augment their potential well-being in the future as well. With the support of training sessions and workshops, this programme also has the potential to create a culture of independence within a community hamstrung by impoverished socio-economic conditions.

Furthermore, the prospect of being able to harvest thatch for a commercial market also offers the local community an opportunity to amplify their income base and thus augment their well-being. Nevertheless, this would entail harvesting more grass to satisfy the needs of the commercial market than would be needed to support the production of items for a local market or simply for household use. This means that although an increase in the grass harvesting could potentially lead to the commercialisation of harvesting which would thus offer a number of advantages in terms of increasing the extent that this programme augments human well-being; it nonetheless requires that certain mechanisms must be put in place that will ensure a sustainable supply of raw materials which will not negatively impact the protected area. However, as none of the beneficiaries or interviewed commercial companies are directly involved in the grass protection and management thereof, they may also become potential victims of resource depletion and overharvesting. Moreover, the ecosystem services offered by the GGHNP also forms an important part of the local communities' access to cultural capital, whereby this park serves to bind the

community together through the development of spiritual/cultural values and heritage protection (Throsby, 1999). Thus, the threat of the depletion of the GGHNP grassland resources may negatively affect this service, and therefore also emphasizes the need to expand this protected area in order to ensure the sustainability of the park and subsequently the programme as well.

Drawing from these findings, it is essential to identify the potential ways in which the thatch harvesting programme can be augmented in a sustainable manner.

6.3 Recommendations

Based on the findings presented in this study, a number of key commendations that warrant consideration include the need to ameliorate the administration and decision-making process of the thatch harvesting programme, as well as the need to investigate potential training opportunities. Following this, possible future research that may further augment the benefits accrued by this programme will subsequently be highlighted and discussed.

6.3.1 Strengthen the administration process of the programme

a) Develop stringent identification methods for the beneficiaries

In order to ensure that only those local communities surrounding the GGHNP benefit from this programme, more strict measures and formalised methods of beneficiary identification needs to be applied.

- **During the application process** the beneficiaries should submit a copy of their Identity Document, and where possible, some form of proof that they reside within a 100km radius of the GGHNP. This proof can be given in any form be it a contract, an account or television license, an affidavit from a local police station, a residential address, or an affirmation from a local community representative or park official.
- **During the harvesting season** more regular monitoring of those cutting grass is essential. Those harvesting within the GGHNP should be

expected to provide proof of their identification and permission to harvest, wherein the park rangers will be able to verify this information based on a checklist of registered beneficiaries provided by the GGHNP management.

Although verifying identification and proof of residency may be challenging in some cases, it may nonetheless help to reduce the incidence of borrowed Identity Documents, thus ensuring that the benefits accrued by this programme go to the intended population.

b) Establish clear boundaries of the allocated harvesting area

The boundaries within which the beneficiaries are allowed to harvest must be comprehensively communicated and clearly marked out for the beneficiaries. This will prevent overharvesting and disturbing any sensitive or endangered species surrounding the harvestable area²¹.

c) Supervise and regulate the harvesting process

A more formalised strategy and monitoring process is needed in order to ensure that the beneficiaries do not harvest grass beyond the allocated areas, and that the total number of those harvesting does not exceed the number of registered beneficiaries in the programme.

d) Identify and monitor the impact of grass harvesting in the GGHNP

In collaboration with the previously mentioned vegetation monitoring process launched by SANParks (Chapter 5), the GGHNP management needs to determine exactly what grasses are being harvested, the extent to which they are being harvested, and the potential impact that this harvesting might have on the conservation mission of the park²². This can be, in part, achieved through regular supervision and transcription during the harvesting season. The harvesting coordinators should also be encouraged to participate in this regard. This will not only create an inclusive management approach, but will

²¹ This would ensure that the GGHNP ecology is maintained, thus supporting the ability of the beneficiaries to have relationships with other species and the world of *nature* (Nussbaum, 2007).

²² Determining the long-term sustainability of this programme will not only augment supporting and provisioning ecosystem services (MEA, 2003), but will also ensure the beneficiaries security of subsistence in the future (Costanza *et al.*, 2007). In turn, this will also provide the local communities with the ability to maintain relationships with other species and the world of nature (Nussbaum, 2007).

also serve to support findings regarding the environmental impact of this programme.

e) Create a back-up list of available beneficiaries

A back-up list of successful applicants should be established by management and passed on to the community representatives and harvesting coordinators. In this way, should some of the harvesters be unable to participate in the programme, then their position can be filled by someone on the list that is willing to take their place during their absence. This will maximise the efficiency, speed and overall benefits accrued during the harvest, which may also minimise foot traffic and moderate their impact on the environment. In turn, the harvesting coordinators should also be encouraged to take note of absent beneficiaries and inform the park regarding their registered replacements. This will allow for the park to closely monitor the number of beneficiaries that are harvesting and which will also provide them with a more thorough knowledge regarding the benefits being accrued.

f) Investigate and augment relations with potential sponsors/stakeholders

In order to further improve the beneficiaries overall well-being, the GGHNP management should also consider identifying and approaching any interested parties that would be willing to offer resources such funding, equipment, the use of their vehicles to transport the thatch and/or to provide practical workshops and training for the beneficiaries²³ (This form of engagement will later be discussed in more detail in subsection 6.3.3).

g) Identify and maintain communication lines between stakeholders

In order for this programme to run more efficiently, and in a way that optimises the benefits accrued by the beneficiaries, it is important to determine what potential resources are available to them. For instance, by developing active networks of communication between the stakeholders this will not only equip the beneficiaries with knowledge regarding the opportunities available to

²³ This form of support will subsequently augment the beneficiaries' access to built capital (Costanza *et al.*, 2007).

them, but will also provide them with them with the means to go about making use of these opportunities²⁴.

h) Ameliorate the application process for beneficiaries

During the application process consistency is essential. A standard time frame regarding when potential beneficiaries may apply, when they may fetch their permits, and how to find out when the harvesting season will begin, will help familiarise these beneficiaries with the application process and cut-off dates. This will help to reduce uncertainty and miscommunication amongst the beneficiaries regarding the operation and management of the programme. In addition to this, the period of time in which the potential beneficiaries may apply, as well as when they may collect their permits, should also be announced well in advance of the potential harvesting season, thus providing them with ample time to complete the application process²⁵.

i) Extend the period for harvesting

Many of the beneficiaries indicated that the time allocated for harvesting was insufficient. Therefore, there is a need for management to consider extending this time frame, whilst also taking into consideration the implications thereof.

j) Supplement and widen advertisements for the programme

Based on the beneficiaries' responses, it is evident that there is a need to increase the amount of advertising done in terms of creating awareness regarding this programme. In addition to increasing the promotion of the programme via radio and putting up more posters at various local facilities such as at the library and frequented shopping stores, the community

²⁴ This is relative to enhanced access to sense, imagination, thought and understanding (Nussbaum, 2007; Costanza *et al.*, 2007), and subsequently their freedom and choice (MEA, 2003). Moreover, according to Flora (2000) this would also serve to improve their access to human capital.

²⁵ This will augment their ability to gain access to information through their sense, imagination, thought & understanding (Nussbaum, 2007; Costanza *et al.*, 2007), thereby also enhancing their social capital (Costanza *et al.*, 2007; Flora, 2000).

representatives and harvesting coordinators also need to be provided with standardised and detailed information regarding the application process²⁶.

6.3.2 Augment an inclusive decision-making approach

a) Involve and support participation of the beneficiaries in the decision-making process

The adoption of training programmes and adaptive management techniques in terms of the thatch harvesting programme may also aid and encourage the beneficiaries' participation in the decision-making process. This may also provide the park with an opportunity to enhance their knowledge regarding conservation management practices²⁷. In addition to this, as the majority of the beneficiaries are women, herein also lies an opportunity for the GGHNP to encourage the integration of women into the decision-making process which may subsequently not only strengthen the impact of this programme on targeted population groups, but may also augment the sustainable development of the local community as a whole.

b) Utilise the beneficiaries historical knowledge of the highlands to identify potential harvesting areas

Prior to the park becoming a protected area, the highlands were often used by the local communities to harvest thatch. In light of this, the beneficiaries, and more specifically those that reside in the GGHNP, may be able to offer their pre-existing knowledge of the land to aid in locating viable sites to utilise for the thatch harvesting programme.

c) Advertise and support meetings with current and potential beneficiaries

The park should, in collaboration with the community representatives, maintain regular meetings with both current and potential beneficiaries. Within

²⁶ This will also enhance the beneficiaries' capability to access their sense, imagination, thought and understanding (Nussbaum, 2007; Costanza *et al.*, 2007).

²⁷ This may also serve to augment the beneficiaries' capability to achieve practical reason in terms of the need to support conservation (Nussbaum, 2007).

these meetings updates on the progress of the programme, notifications regarding any changes in the application process, as well as any updates on the conditions of the grasslands and harvestable areas, will serve to provide the beneficiaries with key information regarding the operation of the programme²⁸.

d) Edify beneficiaries regarding the need to protect the ecosystem services of the GGHNP

Involving the beneficiaries in the decision-making process would offer them a greater knowledge and understanding regarding the ecological value and importance of protecting ecosystem services and maintaining the SANParks conservation policies, as well as the realistic role that protected areas can play in augmenting developmental sustainability. A greater and more formal understanding of the value of protected areas may also serve to further augment the consumptive use value of the grasslands thereby bolstering moral value, respect, and rapport between the local communities and the GGHNP²⁹. This could prove to be a significant advantage in that the beneficiaries may become more environmentally conscientious and may take precautions when entering the park.

e) Promote conservation practice amongst the beneficiaries

Information provided by the park in terms of conservation practices, may also serve to sensitise the harvesters about the habitat that they are harvesting from. In this way, harvesters will know how to identify and preserve any nesting grounds established by birds. This opportunity can also be used to

²⁸ These meetings will also serve to support the sense, imagination, thought and understanding of the beneficiaries (Nussbaum, 2007; Costanza *et al.*, 2007).

²⁹ These developments which may bolster community relations and feelings of affiliation towards the park, may in turn also serve to protect and enhance their relationship with other species and the world of nature (Nussbaum, 2007). Moreover, the beneficiaries' social capital may also be further augmented here, whereby they experience a deeper understanding of the closely interconnected relationship between people and natural resources (Flora, 2000).

encourage harvesters to report the areas where they come across nesting birds whilst harvesting³⁰.

6.3.3 Promote workshops, training sessions and informative dialogue

a) Engage outside companies to offer training and/or workshops for the beneficiaries

As previously mentioned in Chapter 5, one of the commercial companies that purchase the thatch from the beneficiaries have offered to provide training and information in terms of the SABS requirements for the commercial use of thatch as well as how to correctly harvest the grass in order to prevent skewed re-growth. This training would serve to improve the beneficiaries' efficiency and accuracy whilst harvesting, reduce any wastage and harvesting of unsuitable grass, and will also aid in augmenting the long-term sustainability of this programme³¹. Additionally, the GGHNP may also use this knowledge to make more informed decisions when determining a suitable area for harvesting, as well as how much of this resource is available to harvest sustainably.

Other prospective opportunities to enhance the beneficiaries' skills and expertise may also extend towards persuading guest speakers from local businesses to offer short training programmes/seminars in terms of how to make patterned mats, brooms, hats, how to correctly thatch roofs, and perhaps even training that will aid in providing them with basic management skills and business savvy. This form of empowerment will provide the beneficiaries with some much needed skills and knowledge which may, as a

³⁰ This form of support and active participation will not only build rapport and establish good social relations between the beneficiaries and the GGHNP (MEA, 2003), but it may also aid in augmenting the beneficiaries' capability to have a relationship with other species and the world of nature (Nussbaum, 2007).

³¹ This support will serve to augment the beneficiaries' access to human capital (Throsby, 1999; MEA, 2003; Fukuda-Parr, 2003) and which will also aid in the accessibility of this form of natural capital in the future (Throsby, 1999; Costanza *et al.*, 2007).

result, successively incite initiatives to start-up small businesses of their own³².

b) Empower and involve the beneficiaries in training and/or workshop opportunities

Along with engaging outside companies, it is also important to encourage the beneficiaries to participate in the development and organisation of potential workshops and/or training sessions³³. Some of the beneficiaries may either have personal experience in starting up their own small business or they may perhaps know someone who has started one, and who would be willing to share to share their experience and advice with the other beneficiaries. Moreover, one of the beneficiaries or one of the local community members who knows how to make patterned mats, hats or brooms, might be willing to offer training to the beneficiaries as well. Subsequently, this inclusive approach has the potential to not only encourage the beneficiaries participation, but may also serve to empower the local community as a whole should this benefit extend to other types of skills such as manufacturing clay pots, paintings, bead work accessories, and so forth³⁴.

c) Create a stimulating entrepreneurial environment

Along with providing the beneficiaries with the skills, knowledge and means needed to start-up a small business, it is also important to determine the opportunities available in terms of where the beneficiaries will be able to sell their manufactured goods. Herein, potential buyers such as local craft shops or tourist centres could be approached to either buy the beneficiaries products

³² This will also augment the beneficiaries ability to access their sense, imagination, thought and understanding (Nussbaum, 2007; Costanza *et al.*, 2007), which will subsequently also promote their ability to lead meaningful lives through improved access to social capital (Costanza *et al.*, 2007). This may in turn serve to bolster their capability to have control over their environment/freedom (Nussbaum, 2007, Costanza *et al.*, 2007).

³³ This form of development would also serve to increase the beneficiaries' ability to gain access to human capital wherein leadership and skills development is supported (Costanza *et al.*, 2007).

³⁴ This inclusive approach will also extend the capabilities of both the beneficiaries and the community in terms of being able to freely contribute and have an influence in the community life, thus further augmenting their ability to maintain control over their environment/freedom (Nussbaum, 2007, Costanza *et al.*, 2007).

or sell them on their behalf³⁵. For instance, Clarence which is a small town located on the borders of the GGHNP is a renowned tourist attraction and is host to a large number of craft shops, and is thus an ideal location for selling handmade and locally produced goods. The tourist shop at the Basotho Cultural Village which is located within the GGHNP can also be approached in this regard.

Other potential platforms from which they can sell their manufactured goods should also be explored. For instance, consideration might also be given to holding market days at the Basotho Cultural Village, or providing the local community and beneficiaries with stalls from which they can sell their wares³⁶. As previously mentioned in Chapter 4, SANParks has implemented similar sales outlet initiatives for other national parks wherein the community members manage and own these arts and crafts outlets. The endorsement of a similar approach at the GGHNP would not only potentially aid in promoting the livelihoods and economic empowerment of the local communities, but may also attract more tourists to the national park itself, thus potentially rendering further support and positive relations from the general public as well.

6.3.4 Extend the potential impact of the programme through future research

a) Explore potential entrepreneurial readiness

Future research that may aid in enhancing the impact of the thatch harvesting programme may include investigating into whether or not the beneficiaries would be willing to venture into entrepreneurial enterprises should training sessions to improve their skills and expertise be organised and offered by the GGHNP.

³⁵ The development of these cooperative networks would subsequently serve to enhance the beneficiaries' access to social capital (Costanza *et al.*, 2007).

³⁶ These developments would also aid in enhancing the beneficiaries access to built capital (Costanza *et al.*, 2007), and which may further augment their need for identity in terms of gaining recognition, differentiation and status for their manufactured goods (Costanza *et al.*, 2007).

b) Identify specific adaptive management approaches

Precise ways in which the beneficiaries might become more directly and formally involved in the decision-making process should also be explored and adopted by the GGHNP management plan.

c) Investigate and monitor a greater number of potential areas supporting grass species suitable for harvesting

A greater number of areas that may be suitable for both immediate harvesting as well as for potential future harvesting should be assiduously monitored for availability. The careful rotation and monitoring of these harvestable areas would allow for a methodological analysis in terms of the programmes long-term sustainability and its impact on the environment, and wherein the risk of environmental degradation and species endangerment due to overharvesting may be appreciably reduced³⁷. In addition to this, in the case of a veld fire destroying an area allocated for harvesting for a specific year, other identified areas with suitable grass for harvesting may be considered for use if not also affected. This would not only serve to ensure sustainable resource use, but may also aid in enhancing the reliability and security of this programme for the beneficiaries.

d) Investigate potential areas for park expansion

As previously mentioned in Chapter 5, in order to ensure the long-term sustainability of this resource use there is a need to expand the land protected by this national park. Therefore, investigations into potential areas that will allow the GGHNP to expand and protect more grassland will in turn increase opportunities for identifying harvestable areas in the future.

In conclusion, in conditions of severe poverty and high levels of unemployment which are clearly prevalent amongst those communities surrounding the GGHNP, the ability to access natural resources plays a fundamental role in sustaining these people's livelihoods. Taking this into consideration, the need to pursue ICDP programmes such as the thatch harvesting programme have become paramount in

³⁷ This form of monitoring would ensure that the GGHNP ecosystem services are sustainably supported, regulated and utilised (MEA, 2003), and which will thus also augment the beneficiaries' security of subsistence in the future (Costanza *et al.*, 2007).

ensuring the controlled use of resources that will subsequently reduce the degradation of those resources needed for our very survival, and will also aid in creating a culture of independent thinking wherein entrepreneurial endeavors are supported and actively encouraged.

Although there are some significant challenges faced by the thatch harvesting programme and the fiscal benefits are limited to only a small proportion of the local community, this programme nonetheless has the potential to improve the overall well-being of its beneficiaries through enhanced access to capital, capabilities, and the ability of these beneficiaries to meet and sustain their needs. The GGHNP also benefits from the opportunities presented by this programme in that the park is able to align its management practice with SANParks constituency and conservation mission which pertinently aims to bolster sustainable development amongst the local communities surrounding protected areas.

Therefore, by adopting an adaptive management approach wherein the beneficiaries are actively encouraged to participate in the decision-making process, the opportunity to develop collaborative and reciprocal relations between the local community and the GGHNP management may in turn be actualised, which as a result, would also encourage the beneficiaries to become more environmentally conscientious.

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APPENDICES

Appendix A: Beneficiary Interview

Dear Participant

My name is Anna-Lee Kernan. I am a Master's student in the Department of Sociology at the University of the Free State and I am currently conducting a preliminary household survey on those recipients benefitting from the thatch harvesting programme offered at Golden Gate Highlands National Park (GGHNP) in order to profile and assess various aspects pertaining to your experiences, needs, perceptions and views regarding this programme.

Please be so kind and give me a few minutes of your time. Your response is very important to the development of this programme and I sincerely appreciate your time. Your name will not be connected to your views and I will treat your responses to the questionnaire with confidentiality.

Please note that you have the right to decline participation in this study without fear of any penalties, and that this research will have no direct influence on current or future application and granting of permits from SANParks at the GGHNP. However, the success of this study will greatly benefit from your participation.

Should you have any questions or comments on this study, please feel free to contact my supervisor Prof A.J. Pelsers (051 401 2653).

Thank you for participating.

Beneficiary

1

Date of researcher's initial contact with participant

2

Question 1

Gender of respondent

Female	Male
--------	------

Q1 3

Question 2

How many people live within your household (including yourself)? *In order to include these people they must sleep in your house/dwelling for at least 4 nights a week. These people must also be sharing their resources, such as income and food, and they must eat from the same table as you.*

1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14 or more	

Q2 4

Question 3

Please indicate in the following table how many of these people fit into the following categories.

3.1	Between 0 and 15 years old (Children)	
3.2	Between 16 and 35 years old (Youth)	
3.3	Between 36 and 64 years old (Middle Age)	
3.4	Over 65 years old (Elderly)	

Q3.1 5
Q3.2 6
Q3.3 7
Q3.4 8

Question 4

What is your highest level of education?

None	
Up to Grade 7/Standard 5	
Up to Grade 10/ Standard 8	
Up to Grade 12/Standard 10/Matric	
Tertiary qualification	
Other: _____	

Q4 9

Question 5

Within your household, what is the highest level of education attained?

Q5 10

Question 6

The following table offers a number of options relevant to your level of literacy. You may choose more than one option.

	<i>Category</i>	<i>No difficulty</i>	<i>Some difficulty</i>	<i>A lot of difficulty</i>	<i>Unable to do this</i>
6.1	Writing your name				
6.2	Reading				
6.3	Filling in a form				
6.4	Writing a letter				
6.5	Working out/calculating how much change you should receive after buying something				
6.6	Reading road signs				

Q6.1 11

Q6.2 12

Q6.3 13

Q6.4 14

Q6.5 15

Q6.6 16

Question 7

Please provide me with details of all your personal sources of income (including any government grants), and an approximate of how much you earn from each.

	<i>(a)Source of income of beneficiary</i>	<i>(b)Frequency of income (monthly, weekly, sporadically, etc)</i>	<i>(c)Amount</i>
7.1			R
7.2			R
7.3			R
7.4			R

Q7.1

a	
b	
c	

 17

b	
---	--

 18

c	
---	--

 19

Q7.2

a	
b	
c	

 20

b	
---	--

 21

c	
---	--

 22

Q7.3

a	
---	--

 23

b	
---	--

 24

c	
---	--

 25

Q7.4

a	
b	
c	

 26

b	
---	--

 27

c	
---	--

 28

Question 8

Does anybody else contribute to the income of your household? Please provide me with details of such income, as well as the average amount each source generates (This includes any government grants).

	<i>(a)Additional household sources of income</i>	<i>(b)Frequency of income (monthly, weekly, sporadically, etc)</i>	<i>(c)Amount</i>
8.1			R
8.2			R
8.3			R
8.4			R

Q8.1	a	<input type="text"/>	29
	b	<input type="text"/>	30
	c	<input type="text"/>	31
Q8.2	a	<input type="text"/>	32
	b	<input type="text"/>	33
	c	<input type="text"/>	34
Q8.3	a	<input type="text"/>	35
	b	<input type="text"/>	36
	c	<input type="text"/>	37
Q8.4	a	<input type="text"/>	38
	b	<input type="text"/>	39
	c	<input type="text"/>	40

Question 9

Out of your total household income, on average how much is spent on the following items per month?:

	<i>Category</i>	<i>Amount</i>
9.1	Food	R
9.2	Household Rent	R
9.3	School Fees	R
9.4	Electricity and water bill expenses	R
9.5	Transportation costs	R
9.6	Other 1: _____	R
9.7	Other 2: _____	R
9.8	Other 3: _____	R
9.9	Other 4: _____	R
9.10	Other 5: _____	R
9.11	Other 6: _____	R
9.12	Other 7: _____	R

Q9.1	<input type="text"/>	41
Q9.2	<input type="text"/>	42
Q9.3	<input type="text"/>	43
Q9.4	<input type="text"/>	44
Q9.5	<input type="text"/>	45
Q9.6	<input type="text"/>	46
Q9.7	<input type="text"/>	47
Q9.8	<input type="text"/>	48
Q9.9	<input type="text"/>	49
Q9.10	<input type="text"/>	50
Q9.11	<input type="text"/>	51
Q9.12	<input type="text"/>	52

Question 10

How long have you been involved with the thatch harvesting programme offered by the park?

This is my first year	
2 years	

Q10 53

Question 11

On average, how many bundles of grass did you harvest per day?

Q11 54

Question 12

What assets have you been able to purchase with the money you made from the thatch harvesting programme (such as a TV, fridge, etc)?

Q12 55
 56
 57
 58
 59
 60
 61
 62
 63
 64

Question 13

Do you pay cash for these items? Or can you buy items on credits because of your involvement in the programme?

Q13 65

Question 14

How did you first come to know about the thatch harvesting programme in the park (*you can choose more than one option*)

Through friends/family	
Through advertisements/notices	
Through community meetings	
Other: _____	

Q14 66
 67

Question 15

Have you been involved in any other job-creation programmes at GGHNP, such as the wetland rehabilitation project?

Q15 68

Question 16

16.1 Before joining the thatch harvesting programme, did you have prior knowledge on how to harvest grass?

Q16.1 69

16.2 If you said yes, who taught you how to harvest grass?

Q16.2 70

Question 17

17.1 Prior to harvesting the grass, did you receive any training from the park regarding how to harvest the grass (e.g. correct lengths, kinds of grass suitable for harvesting)?

Q17.1 71

17.2 If you said yes, what kind of training was offered to you?

Q17.2 72

17.3 Where did the training take place?

Q17.3 73

Question 18

18.1 Prior to harvesting the grass, did you receive any form of environmental education from the park (e.g. do not litter, do not start fires, etc)?

Q18.1 74

18.2 If you said yes, what information was offered to you?

Q18.2 75
 76
 77

18.3 Where did you receive this information?

Q18.3 78

Question 19

19.1 Did you receive any other form of training or environmental education from someone other than the park officials? If you said yes, who offered you the information?

Q19.1 79

19.2 What kind of information did you receive?

Q19.2 80
 81
 82

19.3 Where did the training take place?

Q19.3 83

Question 20

Is the equipment such as sickles and wiring provided by GGHNP or must you provide these tools yourself?

Q20 84

Question 21

After harvesting, how do you transport your grass?

Q21 85

Question 22

During which months do you usually harvest grass?

Q22 86

Question 23

What do you do with the thatch after you have harvested it (Shelter, selling your bundles to commercial markets, manufacturing products to sell such as baskets, brooms, etc)?

Q23 87
 88
 89

Question 24

If you sell it, to whom do you sell it? (Also indicate the town/city of the buyers)

Q24 90
 91

Question 25

How much do you charge for the thatch, or manufactured product?
(Specify the unit)

Q25 92

Question 26

What do these buyers do with the thatch after they have bought it from you?

Q26 93
 94

Question 27

What procedure do you follow when applying for permits for the thatch harvesting programme?

Q27 95

Question 28

What problems have you experienced regarding the application process?

Q28 96
 97
 98
 99

Question 29

Do you have a representative that communicates with the SANParks staff members on your behalf?

Yes	No	Unsure
-----	----	--------

Q29 100

Question 30

30.1 Are you aware of any community meetings that are held to discuss the projects offered by SANParks at GGHNP?

Yes	No
-----	----

Q30.1 101

30.2 If you answered yes, how often are these meetings held?

Every month.	
Every 2 months.	
Every 3 months.	
Every 4 months.	
Longer than 5 months between each meeting.	

Q30.2 102

30.3 What are some of the issues that are commonly discussed at these meetings?

Q30.3 103
 104
 105
 106

30.4 What is the nature of these meetings? Are they information sessions, or can the community actively participate in these meetings?

Q30.4 107
 108

Question 31

Do you know anyone in the community that played a role in developing the objectives/activities in the thatch harvesting programme? If so, how were they involved?

Q31

 109
110
111
112

Question 32

Do you know of any community members that are involved in the decision-making regarding the thatch harvesting programme? If you said yes, how are they involved?

Q32

 113
114
115
116

Question 33

Tell me about your life before you joined the thatch harvesting programme. How would you describe your life then?

Q33

 117
118
119

Question 34

How did your life change after you joined the thatch harvesting programme? Please explain/mention examples

34.1 In a positive way:

Q34.1

 120
121
122

34.2 In a negative way:

Q34.2

123
124
125

Question 35

What do the members of your household think about your involvement in this programme?

Q35

126
127
128

Question 36

What do the members of your community think about your involvement in this programme?

Q36

129
130
131

Question 37

What is bad about the programme? What do you dislike about working on the programme?

Q37

132
133
134
135

Question 38

What do you think can be done to improve the programme?

Q38 136
 137
 138
 139

Question 39

Overall, how do you feel about working on the thatch harvesting programme?

Q39 140
 141
 142

Question 40

Has it contributed in any way to your health (Emotionally, physically, and/or psychologically)? Please explain.

40.1	Emotionally	
40.2	Physically	
40.3	Psychologically	

Q40.1 143
 144
 145
Q40.2 146
 147
 148
Q40.3 149
 150
 151

Question 41

41.1 Do you think other people (except those working on the programme) also benefit from the program?

Yes	No	Unsure
-----	----	--------

Q41.1 152

41.2 If you said yes, who are they?

Q41.2 153
 154

41.3 How do they benefit?

Q41.3 155
 156

Question 42

For what reasons, other than harvesting the grass, do you enter the park? You may choose more than one.

42.1	Just travelling through	
42.2	Spiritual/ cultural activities	
42.3	Leisure/ recreational activities	
42.4	Work	
42.5	Education	
42.6	Other : _____	

Q42.1 157

Q42.2 158

Q42.3 159

Q42.4 160

Q42.5 161

Q42.6 162

Question 43

How do you feel about the GGHNP? Do you feel that it is an important place or not? Why?

Q43 163
 164
 165

Question 44

Do you think this land should be used as a protected area/park or should it rather be used as living space for people and cattle? Why?

Q44 166
 167
 168
 169

Question 45

Do you agree with the conservation policy at the GGHNP? Please motivate.

Q45 170
 171
 172

Question 46

What do you think you gain from having a conservation area here?

Q46 173
 174
 175

Question 47

Would you be willing to participate in a group session at a later stage?

Q47 176

On behalf of SANParks and myself, thank-you very much for your willingness and participation in this study.

Appendix B: Beneficiary interview – final score sheet

QUESTION	SCORING		
Q1	1= Female 2= Male		
Q2	1= 1-4 household members 2= 5-8 household members 3= 9-13 household members		
Q3.1-Q3.4	Scored directly from responses 999= No value*		
Q4	1= None 2= Completed primary school 3= Partly completed secondary school 4= Completed secondary school		
Q5	1= None 2= Completed primary school 3= Partly completed secondary school 4= Completed secondary school		
Q6.1-Q6.6	1= No difficulty 2= Some difficulty 3= A lot of difficulty 4= Unable to do this		
Q7.1-Q7.4	(a) 1= Child grant 2= Construction 3= Piece jobs 4= Wetlands project 5= Old age pension 999= No value*	(b) 1= Monthly 2= Weekly 3= Sporadically 999= No value*	(c) 1= R1- R400 2= R401- R800 3= R801- R1200 4= R1201- R1600 5= R1601- R2000 6= R2001- R2400 7= R2401- R2800 8= R2801- R3200 9= R3201- R3600 999= No value*
Q8.1-Q8.4	(a) 1= Child grant 2= Construction 3= Piece jobs 4= Wetlands project 5= Old age pension 999= No value*	(b) 1= Monthly 2= Weekly 3= Sporadically 999= No value*	(c) 1= R1- R400 2= R401- R800 3= R801- R1200 4= R1201- R1600 5= R1601- R2000 6= R2001- R2400 7= R2401- R2800 8= R2801- R3200 9= R3201- R3600 999= No value*
Q9.1-Q9.10	9.6 Funeral scheme 9.7 Clothing account 9.8 Furniture account 9.9 Cellphone contract	1= R1-R100 2= R101- R200 3= R201- R300 4= R301- R400	

	9.10 Airtime 9.11 TV licence 9.12 Gas	5= R401- R500 6= R501- R600 7= R601- R700 8= R701- R800 9= R801- R900 10= R901- R1000 11= R1001- R1100 12= R1101- R1200 13= R1201- R1300 14= R1301- R1400 15= R1401- R1500 999= No value*
Q10	1= This is my first year 2= 2 years	
Q11	1= 5-10 bundles 2= 11-15 bundles 3= 16-20 bundles 4= 21-25 bundles 5= 26-30 bundles 6= 31-35 bundles	
Q12	1= TV 2= DVD machine 3= Amplifier and port set 4= Kitchenware 5= Fridge 6= Furniture 7= Washing machine 8= Clothes and shoes 9= Blankets 10= A cellular phone 11= Materials for house building/improvements 12= Vehicle parts 13= Livestock 14= Used the money to start a business 15= Use the money to go for driving lessons 16= Food and toiletries 999= No value*	
Q13	1= Cash 2= Credit	
Q14	1=Family/Friends 2= Through Advertisements/notices 3= Through community meetings 4= Harvesting coordinator 5= Park rangers	
Q15	1= Yes 2= No	
Q16.1	1= Yes 2= No	
Q16.2	1= Family members taught them whilst growing up	

	2= harvesting coordinator 999= No value*
Q17.1	1= No
Q17.2	999= No value*
Q17.3	999= No value*
Q18.1	1= Yes 2= No
Q18.2	1= Do not kill the animals in the park 2= Do not litter rubbish in the park 3= Do not start fires in the park 4= Do not destroy other plant life within the park 999= No value*
Q18.3	1= On the harvesting site 999= No value*
Q19.1	1= The harvesting coordinator 2= No
Q19.2	1= correct length, how to cut, tie, and store grass 2= No fires, no littering, and do not destroy other plant life in the park. 999= No value*
Q19.3	1= On the harvesting site 999= No value*
Q20	1= I must provide my own tools
Q21	1= The harvesting coordinator 2= I carry it by foot 3= I hire a vehicle to come fetch it
Q22	1= June to October
Q23	1= I sell it to the harvesting coordinator 2= I manufacture products such as brooms and mats to sell 3= I sell some to the Qwa-Qwa community 4= I use some for roofing
Q24	1= The harvesting coordinator in Qwa-Qwa 2= The local Qwa-Qwa community 3= Tourists
Q25	1= R12 per bundle 2= R35 per broom 3= R40 per mat
Q26	1= Roofing 2= Unsure
Q27	1= I go to the head office and a park official helps me fill in the application form 2= The harvesting coordinator applies on my behalf
Q28	1= No problems 2= It takes too long to process 3= I do not know when to pick up my permit to harvest, or if my application was even successful
Q29	1= No
Q30.1	1= No
Q30.2	999 = No value*

Q30.3	999 = No value*
Q30.4	999 = No value*
Q31	1= No
Q32	1= No
Q33	1= It was difficult because I struggled financially 2= I stayed at home doing nothing
Q34.1	1= I was able to buy food and clothes 2= I was able to help support my family 3= My quality of life did not change much
Q34.2	1= It did not negatively affect my life 2= I had cuts on my legs which took a long time to heal 3= I suffered from allergies after harvesting
Q35	1= They are very proud of me because I am able to contribute financially 3= Some are jealous of me
Q36	1 = They are very proud of me 2= Some are jealous of me
Q37	1= Insufficient time to harvest 2= They (the park) do not provide tools/equipment 3= Rangers treat us badly when we are there to harvest 4= Fires destroy our income. We rely on being able to cut grass 5= The park does not advertise the programme early enough 6= It is difficult to find buyers
Q38	1= More time should be given to harvest 2= The park should provide tools/equipment for harvesting of thatch 3= The park should provide toilet facilities 4= The park should burn fire breaks earlier to protect the grass 5= The park should provide training to improve harvesting skills 6=The park should help us find people to buy our bundles of grass 7= The park should advertise the programme earlier
Q39	1= Good. I am very happy when I work in the programme. 2= Unsure
Q40.1	1= I feel more positive about my future 2= I feel emotionally relieved that I am able to cope with my financial pressures 999 = No value*
Q40.2	1= I feel fitter and healthier 2= I feel physically stronger 999 = No value*
Q40.3	1= I feel relieved to know that I can help provide for my family 2= It has helped to boost my confidence and feeling of self-worth 3= It has helped me to improve my communication skills 999 = No value*
Q41.1	1= Yes 2= No 3= Unsure
Q41.2	1= Shop keepers 2= The family in the household 3= The drivers for transporting thatch

	999 = No value*	
Q41.3	1= They get my money 2= Food and needs are supplied by my income 999 = No value*	
Q42.1-Q42.6	42.6 Visiting friends in the GGHNP	1= Yes 2= No
Q43	1= It is a tourist attraction 2= In conserves the natural grasslands 3= It is a place to go relax and enjoy untouched nature 4= It is a place to go learn about nature 5= It provides employment opportunities 6= It serves to conserve our heritage 7= Unsure	
Q44	1= It should be used for grazing cattle 2= It should be protected because it preserves nature and our local heritage 3= It should be protected so that the grass for harvesting is not reduced 4= Unsure	
Q45	1= It important to have rules and boundaries that will protect the ecosystem services 2= The conservation policy must be important because the people working at the park are informed and know why the park must be protected 3= The policies protect our heritage 4= Unsure	
Q46	1= Employment opportunities 2= Knowledge about the environment 3= It is close by, so I can go relax and enjoy the nature 4= Unsure	
Q47	1= Yes	

***if there was no response for this question, the missing value was transformed and recoded into a new variable 999**

Appendix C: Park management interview

Dear Participant

My name is Anna-Lee Kernan. I am a Master's student in the Department of Sociology at the University of the Free State and I am currently conducting a preliminary interview on those benefitting from and/or involved with the thatch harvesting programme offered at Golden Gate Highlands National Park (GGHNP) in order to profile and assess various aspects pertaining to their experiences, needs, perceptions and views regarding this programme.

Please note that you have the right to decline participation in this study without fear of any penalties, and that this research will have no direct influence on your position with SANParks at the GGHNP. However, the success of this study will greatly benefit from your participation.

Your response is very important to the development of this programme and I sincerely appreciate your time.

Should you have any questions or comments on this study, please feel free to contact my supervisor Prof A.J. Pelser (051 401 2653).

Thank you for participating.

Question 1

1.1 How many staff members are currently involved in the thatch harvesting programme? (Possibly list who is involved?)

1.2 Please could you briefly explain what each of their responsibilities are.

Question 2

How is this programme financed? Is it subsidized? If so, by who?

Question 3

Are there any other stakeholders who are involved in this programme besides SANParks? If so, who are they? In what way are they involved?

Question 4

How, when and why was this programme launched?

Question 5

5.1 In order to prevent people from overharvesting, what is your harvesting quota per annum?

5.2 How is this quota determined?

5.3 What factors/guidelines do you use to determine how much can be sustainably harvested?

5.4 Was this quota reached/exceeded this year?

5.5 How do you monitor the amount of grass harvested?

Question 6

What are the criteria/necessary requirements for beneficiaries to apply and participate in the programme?

Question 7

Do you provide assistance in completing application forms?

Question 8

What does the process of identifying and selecting beneficiaries entail?

Question 9

How do the beneficiaries find out whether or not their application was successful?

Question 10

Can the beneficiaries apply for more than one harvesting season?

Question 11

11.1 Has there been an increase or decrease in the number of those community members applying for this programme since last year?

Increase	Decrease	The numbers are the same
----------	----------	--------------------------

11.2 Why do you think this is?

Question 12

During which months do you allow the beneficiaries to come in the GGHNP to harvest?

Question 13

Do you charge the beneficiaries for harvesting the grass? If so, how do you calculate it? Per kg/bundle/metre²?

Question 14

In your experience, what do the beneficiaries use the thatch for?

Question 15

Are you aware of any outside benefactors that perhaps purchase the thatch from the beneficiaries after the harvest? If yes, please explain.

Question 16

Besides the beneficiaries, are there outside commercial companies that come to harvest as well? If so, how much do they harvest on average per season?

Question 17

What method(s) do you use to communicate with the community regarding when/where and how they might become involved in the thatch harvesting programme?

Question 18

18.1 Do you feel that this programme has had a positive impact on those beneficiaries coming from the local community?

Yes	No	Unsure
-----	----	--------

18.2 How so? Please explain:

Question 19

19.1 Do you think other people (except those on the programme) also benefit from the program?

Yes	No	Unsure
-----	----	--------

19.2 If you said yes, who are they?

19.3 How do they benefit?

Question 20

To what extent is this programme linked with other community outreach programmes run by GGHP?

Question 21

Do you offer the beneficiaries entrepreneurial opportunities in GGHNP after the harvesting? For instance, selling their products such as baskets, brooms, etc, in the tourist shop) If yes, please explain.

Question 22

Do you assist beneficiaries in finding markets/buyers for their thatch?

Question 23

Besides harvesting the grass, are there any other employment opportunities that you offer them in this programme?

Question 24

Do the beneficiaries receive any additional information on conservation practice (e.g. environmental education) whilst working on the programme? If so, what kind of information is provided?

Question 25

Do you provide training to beneficiaries regarding how to harvest, store, and use the thatch? If so, please provide details.

Question 26

Do you provide equipment for beneficiaries? If so, what equipment do you offer?

Question 27

What challenges have you faced since launching the thatch harvesting programme?

Question 28

What do you feel are the strong points about the programme?

Question 29

What do you think can be done to improve the programme?

On behalf of SANParks and myself, thank-you very much for your willingness and participation in this study.

Appendix D: Commercial company interview

Dear Participant

My name is Anna-Lee Kernan. I am a Master's student in the Department of Sociology at the University of the Free State and I am currently conducting a preliminary interview on those benefitting from and/or involved with the thatch harvesting programme offered at Golden Gate Highlands National Park (GGHNP) in order to profile and assess various aspects pertaining to their experiences, needs, perceptions and views regarding this programme.

Please note that you have the right to decline participation in this study. However, the success of this study will greatly benefit from any insight and information that you can provide.

Your response is very important to the development of this programme and I sincerely appreciate your time.

Please indicate whether I may refer to the name of your company within the data analysis: _____

Should you have any questions or comments regarding this study, please feel free to contact my supervisor Prof A.J. Pelsers (051 401 2653).

Thank you for participating.

Question 1

Where is your company located?

Question 2

On average, how much thatch do you receive from the harvests at the GGHNP?

Question 3

Do you have any specific thatch requirements? In other words, must the thatch be a certain length or thickness? If so, please elaborate.

Question 4

How do you calculate the price for the thatch? In other words, do you pay by weight, number of bundles, quality of thatch, etc?

Question 5

5.1 Does the company collect and transport the thatch, or is it the harvesters' responsibility to deliver the thatch to you?

5.2 How are the transport costs calculated? In other words, does the company pay for the transport costs, is it compensated within the thatch purchase price, or are the transport costs the responsibility of the harvesters?

Question 6

What do you use the thatch for?

Question 7

What challenges have you faced upon receiving thatch from the GGHNP harvests?

Question 8

8.1 Would you be willing to offer training or workshops in order to improve the beneficiaries harvesting skills?

8.2 If you indicated yes, what training/ workshops would you be able to provide?

On behalf of SANParks and myself, thank-you very much for your willingness and participation in this study.

Appendix E: Works published based on this study

Protected Areas and Ecosystem Services – Integrating Grassland Conservation with Human Well-Being in South Africa

André Pelser, Nola Redelinghuys and
Anna-Lee Kernan

Additional information is available at the end of the chapter

<http://dx.doi.org/10.5772/59015>

1. Introduction

In recent years development agencies and conservation organizations such as the World Conservation Union, World Bank, Birdlife International, the United Nations, the World Wide Fund for Nature and Fauna as well as Flora International, have served to reinforce a number of conservation practices and policies in which the link between natural conservation and improving the lives of rural communities has been piquantly accentuated. The central emphasis that has emerged from these accents is that protected areas – and national parks in particular – cannot be viewed as isolated from the economic and social context within which they are located. Worldwide – and particularly in the developing world – protected areas are progressively expected to navigate past the conventional primary focus on biodiversity protection to also, through the process of conserving biodiversity, contribute to improving the well-being of those communities adjacent to conservation areas through the delivery of social and economic benefits [1]. To be more precise, it has become essential that the goals of protected-areas management and biodiversity conservation become acquiescent with the socio-economic expectations and needs of local communities [2,3,4]. The very survival of such areas and the people surrounding it depends on a mutually beneficial interaction. In fact, protected areas have a powerful potential to markedly influence human well-being through the generation of social, environmental and economic initiatives that may benefit both protected areas as well as the local communities [5].

One example in South Africa where protected areas have been influential in attempting to improve the well-being of neighbouring communities is the People and Parks Programme of

South African National Parks (SANParks), which was implemented as an intermediary that endeavours to address the various socio-economic tribulations that were often ignored or sidelined in favour of conservation during the Apartheid rule. The post-apartheid policy of SANParks is entrenched in the conviction that biodiversity conservation should be directly linked with the needs of neighbouring communities, thus opening up possibilities for augmenting the well-being of communities neighbouring national parks in the country [6]. Some of the initiatives aimed at improving the well-being of neighbouring communities include health programmes, the development of cultural resources, heritage management, environmental education, the interpretation of medicinal plant use, the unlocking of economic opportunities in the form of job creation, and the carrying out of an assortment of arts and crafts projects [3,6].

Emanating from the above, this chapter reflects on a study conducted in the Golden Gate Highlands National Park (Golden Gate) in the Eastern Free State of South Africa, and the role of the park as a vehicle for improving the well-being of those living within the surrounding communities by means of the latter's participation in a grass harvesting programme in the park. Essentially, the broad aim of this research venture was to assess to what extent the thatch harvesting programme at Golden Gate had impacted on human well-being within the park's neighbouring communities. More specifically, this study set out to explore and answer the following interrelated research questions: To what extent has the thatch harvesting programme at Golden Gate benefited the communities bordering the park, and particularly the most vulnerable and poorest section of the community? What evidence is there to indicate that the thatch harvesting programme has improved the community's well-being? What interventions are needed to strengthen and maximise the impact of the said programme in order for it to effectively enhance the well-being of those within the target community? To what extent, if any, has this programme impacted the park's conservation mission?

2. About the project

This section firstly provides a broad overview of the general state of the grassland biome in South Africa, followed by a more detailed discussion of the grass-harvesting programme at Golden Gate.

2.1. Setting the scene: The grassland biome in South Africa

Globally the grassland biome covers about 40% of the earth's surface, is home to more than one billion people in the world and provides many essential ecosystem services required to support these people and many others who are not living inside this biome [7]. Grasslands are the largest of South Africa's nine biomes and cover roughly one third of the country [8]. South African grasslands constitute a complex ecosystem that includes amongst others 42 river systems, five Ramsar wetlands and three World Heritage Sites. There are more than 3,000 plant species found in these grasslands, and only one in six of them are grasses. Grasslands are the habitat for a wide variety of wild life, and provide many crucial ecosystem services that are

essential for human development and well-being. Apart from providing grazing for millions of cattle and sheep, the grasslands biome also offers all-important services in water production, wetland functioning, flood attenuation, recreational amenities and support for livelihoods such as thatch for housing, grass for weaving and medicinal plants [8]. South African grasslands play a critical role in the hydrological cycle by reducing erosion and runoff, and by storing runoff as either groundwater or in wetlands, thereby contributing to water supply and freshwater ecosystem services [7].

The grasslands biome is one of the most threatened biomes in South Africa as a result of population increase, rapid urbanisation, expanding mining operations, increased forestry and commercial agriculture. Approximately 35% of this biome has been irreversibly transformed and less than 2% is officially conserved [7,9]. The current state of South African grasslands, as well as expected future developments, means that the important biodiversity and ecosystem services in the grasslands are being degraded to such an extent that human well-being is threatened. As a result, the importance of protecting the grassland biome for both biodiversity and economic development reasons has been recognized by the National Biodiversity Strategy and Action Plan that has identified this biome as a spatial priority for conservation action in South Africa [9].

2.2. Grassland conservation and grass harvesting at the Golden Gate Highlands National Park

Golden Gate) is situated in the foothills of the Maloti Mountains in the north-eastern part of the Free State Province (Figure 1), and plays a critical role in the country's grassland conservation strategy. Established in 1963, Golden Gate comprises more than 30 000 hectares of highland habitat, is home to a large variety of mammals, antelope and bird species, and is renowned for its sandstone formations and important paleontological discoveries [3]. The park is home to more than 60 species of grasses, and is currently the only national park in South Africa that protects the Afromontane grassland biome. The grass species include the red *Themeda triandra*, which is a highly nutritious grass for grazing antelope and widely regarded as an indicator of a healthy ecosystem [10]. Much of the grasslands outside the park have been permanently lost as a result of overgrazing and soil erosion. The larger Golden Gate region is also one of the most important water-catchment areas in South Africa, with more than half of the country's freshwater supply coming from this area [3].

Since the proclamation of the first national park in South Africa in 1926, no form of resource utilization was allowed in any of the 22 national parks, including grass harvesting at Golden Gate. This conventional policy of SANParks changed in 2003 when national legislation was amended to provide for communities to access resources from protected areas. The changed legal provision subsequently called for a revision of SANParks' own policy on resource use, and introduced a new resource use policy that regulates standard operating procedures for resource use in all South African national parks. In a broader context, the new policy on resource utilisation in national parks serves to confirm many initiatives since the mid 1990s that have served to underline the importance of the role of national parks with regard to



Figure 1. Locality of the Golden Gate Highlands National Park [11]

sustainable economic development and their augmentation of the well-being of their neighbouring communities.

The thatch harvesting programme at Golden Gate has been one of several projects for resource use within SANParks aimed at transferring social and economic benefits accruing from biodiversity protection to the impoverished surrounding communities through prospective employment opportunities by means of commercial access permits and park assisted entrepreneurial endeavours [12]. For many generations QwaQwa National Park, which amalgamated with Golden Gate in 2009, offered a rich source of accessible and harvestable grasses for communities residing in the area. These grasses were used to produce a wide variety of items such as brooms, hats, baskets, roof thatching, decorations and floor mats [12]. However, in accordance with the National Environmental Management Protected Areas Act (Act 57 of 2003), Golden Gate was obliged to restrict harvesting activities within its borders, which as a result cut off natural resources otherwise used by local community members. Recognising the financial consequences of such constraints, and in conjunction with SANParks Resource Use Policy which was signed into effect in March 2010, Golden Gate began exploring the possibility for regulated and controlled access and use of harvestable grass within the park. In June 2011, the necessary documents pertaining to the application for access, the access permits, the conditions for entry and harvesting within the park as well as the monitoring document for

harvesting, were conceptualised and submitted for evaluation. In September 2011, a draft needs analysis report was also submitted for review [12]. Upon consideration and acceptance of these supporting documents, a pilot project for the proposed thatch harvesting programme was subsequently launched in 2012.

3. Conceptual framework

3.1. Ecosystem services and human well-being

In recent years, the need for more efficient management of ecosystem services, coincided with the needs and values of neighbouring communities, has become increasingly acknowledged by numerous governments as a means for improving the quality of life and well-being of their respective populations [13]. It is widely agreed that poverty and well-being are commonly experienced and expressed as counter extremes of one another, with the 2000/01 World Development Report further strengthening this concept by defining poverty as “the pronounced deprivation of well-being” [13]. Adding to this, the experience of well-being or ill-being is strongly dependent on the situation and context in which local personal and social factors such as ecology, gender, age, geography and culture play a large and very important role [13].

Both the ecosystem and human well-being are directly interdependent in that ecosystem services provide humans with the necessary resource opportunities they require to survive and improve their quality of life, and the availability of these resources can profoundly affect aspects such as health, the rate of economic growth, the frequency and persistence of poverty, livelihood security and so forth. The ecosystem also offers human beings nonmaterial benefits such as education, recreational and spiritual services. On the other hand, ecosystems are impinged upon by human activity through the need of ecosystem services such as fuel wood, food, fresh water, fibre and grass. [13]. It clearly follows from this interaction that nature is often valued for its usefulness: it satisfies a predilection, provides a function, and meets human needs [14]. These values are assigned to something because of the satisfaction and enjoyment that can be obtained through the use of biological resources. When an object is utilized as a method to satisfy a need or as a means to achieve an end, either the relation or entity can then be classified as an instrumental value. Thus through the *economic/utilitarian* perception of the value of nature, the efficacy of the environment is articulated through individual preferences or an accumulation of preferences [14,15]. In addition to this, the consumption of environmental resources refers to *consumptive use values* which are the values placed on those resources which are consumed directly without having passed through a market. Consumptive use values are especially significant to the rural populace in developing countries where these biological resources are used and collected as a source of subsistence. Pressures to conserve biodiversity have consequently resulted in reduced access to these resources and for the poor and politically weak, this has typically impacted them severely [15]. Put differently, the erosion of natural capital has serious consequences for human quality of life, and particularly that of poor, rural communities.

Natural capital can be defined as those goods and services supplied by ecosystems that are both renewable and non-renewable, including the ecological practices regulating their use and existence that may serve to meet various human needs [16, 17]. Natural capital plays a fundamental role in determining the well-being of both individuals as well as groups, in that it provides a number of essential elements such as air quality, the reduction of greenhouse gases, water quantity, quality of soil and landscape, but to name a few [13, 18]. In addition to this, ecological services play a fundamental role in providing the necessary resources required to live a life of normal length through medicines for diseases, freshwater, foods, and the regulation of threatening human diseases [19]. Thus, natural capital impacts all communities, most especially those communities surrounding protected areas wherein healthy, sustainable ecosystems with numerous community benefits are essential to their well-being and quality of life [13,20].

3.2. Measuring quality of life linked to ecosystem services

The search for a conceptual clarification of "quality of life" has seen the development of two essential methodologies of measurement, namely subjective well-being and "objective" or social indicators of well-being [17,21]. Objective well-being is quantifiably assessed by making use of both economic, social and health indicators, as well as observable variables such as life expectancy, literacy levels, and economic production that reflect the degree to which human needs have been met and which are deemed essential for a good life. However, whilst these measurements may provide researchers with an indication of the extent to which the social and physical needs are met, they are limited, and do not encompass other elements essential to quality of life such as psychological security and life satisfaction [17]. Thus, by analysing the quality of life of a society solely in terms of economic, social and health indicators, it clearly depreciates fundamental elements such as self-development, love, and acquiring meaning in life [21].

Consequently, to successfully measure quality of life it is necessary to also consider individual perceptions of well-being, which leads us to the second measurement, namely subjective well-being. The latter pertinently focuses on individually reported levels of contentment, happiness, fulfilment, pleasure and other such forms of human experience and cognitive satisfaction [17,21]. This indicator is grounded on the supposition that in order for researchers to understand the individual's or group's empirical quality of life, it is necessary to diametrically investigate how they feel about life within the perspective of their own standards and values [21]. The overall quality of life is thus determined by both the degree to which groups or individuals are content in their life experiences as well as the level to which their needs are met. By incorporating both "objective" and "subjective" variables, it becomes possible to gain a clearer picture of the true meaning of quality of life on both temporal and multiple spatial scales [17]. It is thus argued that constituents such as subjective well-being, objective well-being, human needs, values and the supply of ecosystem services are needed to form an integrated approach in order to understand human quality of life and how it might be obtained at the interface of people and protected areas.

4. Methods

4.1. The study site and target population

Golden Gate falls within the boundaries of the Thabo Mofutsanyana District Municipality (TMDM) in the QwaQwa region of the Free State. TMDM has the second largest population (736 238 in 2011) of the five districts in the Free State, with an average household size of 3.3, which is more or less equal to the national average of 3.4 [22]. Almost one third (31.9%) of the population of the TMDM is younger than 15 years. When it comes to socio-economic development and human well-being, the district is characterised by a high unemployment rate of 44.3% (2013) that translates into a staggering poverty rate of 69.1% (2011) – the highest of all districts in the province. The high poverty and unemployment rates have propelled an out-migration of male labour that in turn has resulted in a skew gender distribution of 87.3 males per 100 females in the district [22]. Overall, the district is thus hamstrung by low levels of human development and a low quality of life, low literacy and/or education levels and a high unemployment rate. Under these conditions, and more so in this area, grass has been known to have important livelihood functions, as traditionally it has been used for grazing, thatching, weaving and the manufacturing of household items such as brooms and mats [23].

4.2. Research design

As an analytical framework for the evaluation of the thatch harvesting programme, an outcome analysis was used in order to ascertain to what extent the objectives of the programme have been achieved. Elements highlighted in the outcome analysis included assessing how successful the programme has been, what obstacles this programme has faced, the levels of satisfaction among the direct beneficiaries of the programme, to what extent this programme has effectively reached its target population, and finally, to ascertain how this programme might be improved for future use. Both desk-top and empirical components have been incorporated within a mixed method design of quantitative and qualitative approaches. During the desk-top phase of the study, a theoretical basis was established that ascertained the relative interface between communities and the protected ecosystem which they neighbour. During the empirical phase various data gathering methods such as individual interviews, a focus group session and in-depth interviews with key informants were employed.

Analytically, the concept of well-being and the perceptions attached to this concept played a significant role in the development of the research design and methodology for this study. The methodology was developed in analogy of the five dimensions of well-being as proposed by the Millennium Ecosystem Assessment [13], which includes both the quantitative and qualitative components of well-being alluded to in section 3 of this paper. The first component is that of *material* well-being wherein an individual experiences a good and secure life through prospects such as income, assets, livelihoods, shelter, clothing and access to goods. Secondly, the *health* component pertains to living in a healthy physical environment, feeling well and being strong. The third component is that of good *social relations* which includes mutual respect, good family and gender relations, social cohesion and the ability to provide, when needed, for friends and children. The fourth component of well-being portends to that of *security* in which

secure access to natural or other resources, living in a controllable environment and having security from natural and human-made disasters are vital. The final key dimension of human well-being is *freedom and choice* in which the individuals must have control over their lives and their values or being. Accordingly, these five dimensions may serve to either positively or negatively reinforce one another, thus changes in one may bring about changes in others. Concurrently, these essential elements of well-being were pertinently and comparatively utilized and assessed throughout this study in order to gauge the degree of well-being for those stakeholders directly benefitting from the thatch harvesting programme established at Golden Gate, all of which were used to suitably address the complexities of human endeavor, human capability, and human life [13, 24].

Methodologically, the five dimensions of human well-being were operationalised in two separate, yet concurrently running, stages for the purposes of programme evaluation: a primary and secondary stage. The primary evaluation focused on those directly benefiting from the programme as well as the potential benefits for the park itself. (The concept of direct beneficiaries did not only allow for the inclusion of the individual harvesters, but also for their households). The secondary stage of the impact evaluation explored the impact of the programme on the broader community, as well as the business sector.

4.3. Sampling and sample sizes

In order to understand the machinations of the thatch harvesting programme, and subsequently its potential strengths, weaknesses and opportunities, it was necessary to not only interview those directly benefitting from the programme, but also those directly involved in the development and running of the programme. Additionally, in order to ascertain possible secondary or multiplier impacts, those commercial companies involved in purchasing the thatch after harvesting of the grass were also interviewed. Consequently, three samples were drawn: one from the harvesters (direct beneficiaries), a second sample from park officials and a third from those commercial companies who purchase the thatch immediately after harvesting.

A total of 34 harvesters – i.e. everybody who were involved in the 2012 pilot programme – were selected and interviewed through the use of a purposive sampling method. The park officials in Golden Gate directly involved in the running and support of the thatch harvesting programme were sampled by means of a non-probability purposive sampling method. These key informants included the People and Parks Manager and the Community Facilitator based at the park. However, due to unforeseen circumstances, the People and Parks Manager was unable to attend the focus group session, but the Park Manager of Golden Gate was able to participate in her stead. During the secondary stage of impact evaluation, two commercial companies were identified and contacted, which served to ascertain possible potential multiplier effects of the programme within the neighbouring social and economic environment. The first company interviewed was *Biggarsberg Thatchers*, and the second company *Thatch Craft*. Both companies are located in the neighbouring KwaZulu Natal province (Figure 1). Official representatives of both these companies were interviewed telephonically due to a limited project budget. Interviews with the harvesters and park officials were conducted

between October and December 2013, while the two companies were contacted and interviewed during May 2014.

4.4. Data collection mechanisms and measuring instruments

Data for the 34 harvesters was collected by means of both structured and semi-structured individual interviews, while a focus group session was conducted with the two park officials. Instruments that were utilized during data collection included a structured questionnaire set for the harvesters and semi-structured questionnaires for both the park officials and the representatives of the commercial companies that purchased the thatch. The structured questionnaire developed for the harvesters served to assess to what extent and in what way the programme had positively contributed towards the well-being of not only the direct beneficiaries, but their household members as well. In addition to this, the questionnaire also served to ascertain the harvesters' perceptions regarding both the programme as well as Golden Gate itself, the application process, in what ways they benefitted from being a part of the programme, the challenges they faced in the past, and their perceptions regarding possible solutions to these challenges. Furthermore, the questionnaire also served to identify potential social networks and established social ties between the community and the protected area. Due to the anticipated low levels of literacy amongst the harvesters, a Sesotho-speaking facilitator was used to translate the English constructed questionnaire items during the interviews with the harvesters, in order that the validity and reliability of the measuring instruments could be enhanced. All interviews were recorded and later re-evaluated by another Sesotho-speaking facilitator.

Following the interviews conducted with the harvesters, a focus group session was conducted with the two park officials at Golden Gate mentioned earlier, who not only provided insight into the machinations of the programme, but also served to confirm and clarify main issues raised by the harvesters. Areas outlined during the focus group session included the logistics pertaining to those responsible for the running of the programme, in-depth information regarding the selection and sustainable use of harvestable grass found in Golden Gate, the application process for direct beneficiaries, the exploration of established/potential networks, the exploration of facilities offered to direct beneficiaries, the challenges Golden Gate has faced since the conception of the programme, and possible recommendations regarding issues revealed during the interviews with the direct beneficiaries. The interviews with the park officials as well as those with the respective companies were conducted in English, and thus no translation of the measuring items was necessary. Lastly, electronic correspondence was conducted with the specialist scientist: vegetation ecology in SANParks' Division of Scientific Services to determine how the grassland ecosystem in the park has been affected (if any at all) by the harvesting programme.

Analysis of the data sets was conducted thematically and descriptively to create an incorporated and holistic view of the progress of the thatch harvesting programme, as well as the potential opportunities it has to offer for future beneficiaries. Specific data-sets relative to the quantitative principles within this study were analysed through the use of predictive analytics software, namely the Statistical Package for the Social Sciences (SPSS), version 21.

5. Findings and discussion

The findings of the study commence with an overview of the socio-economic status of the households to which the respondents belonged. This socio-economic profile provides insight into the dire socio-economic circumstances of the communities that these respondents reside in. An overview of the socio-economic context enables the assessment of the contribution of the thatch harvesting programme to the overall well-being of the respondents and their households. The assessment of the programme's contribution to the well-being of respondents and their households follows the dimensions of the Millennium Ecosystem Assessment [13], as previously outlined in the methodology section of this chapter. More specifically, the findings assess the extent to which the thatch harvesting programme has benefited the most vulnerable and poorest section of the community and explores whether the programme has, as perceived by the respondents, served to improve individual and household well-being. Lastly, challenges experienced by beneficiaries in this programme are discussed and interventions proposed by them to strengthen and maximise the impact of the programme are outlined.

5.1. Socio-economic status of households

Households represented by the respondents are fairly large, with more than half of the households (55.9%) having between five and eight household members, and a further 8.7% of households comprising of between nine and thirteen members (Table 1). Household members were defined as those who sleep at the dwelling for at least four nights a week, share physical resources (i.e. food and income) and eat together with the rest of the household.

Members per household	Number of households	
	N	%
1-4	12	35.3
5-8	19	55.9
9-13	3	8.7
Total	34	100

Table 1. Household size of respondents

The average household size for this sample of respondents is 5.3. This is much higher than the average household size for the larger Qwa Qwa area, which is 3.3 as mentioned earlier. The households represented by the programme beneficiaries are among the poorest households in the community. Poorer households are generally characterised by larger household numbers due to factors such as higher fertility rates and poverty, compelling people to pool resources. When analysing the household age structure, it transpires that 76.5% of households had children under 15 years of age, while almost one third of the households interviewed (32.3%) had at least one household member older than 65 years. Almost half of the households

interviewed (47.1%) had two children under 15 years, while 23.5% of the households had between four and five children under 15 years of age. In total, the 34 households represented in the sample had 72 children under the age of 15, and 14 adults over the age of 65 (Figure 2).

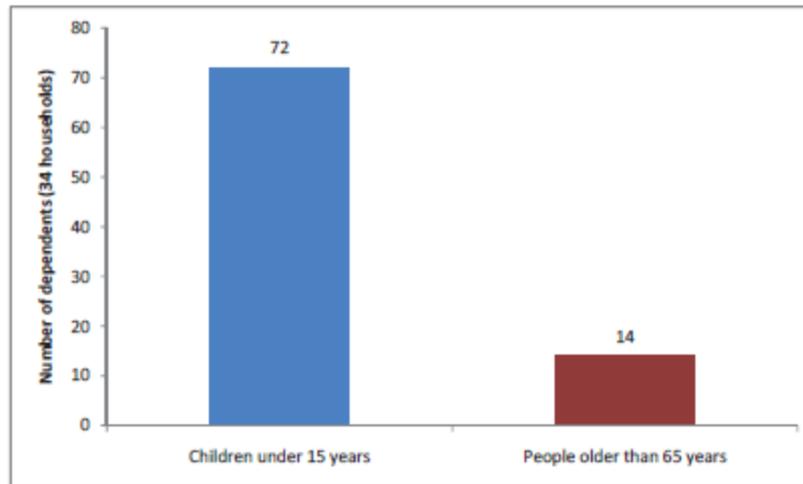


Figure 2. Total number of dependents per age category

The age structure of the households points towards a high dependency ratio and provides further insight into the overall profile of the households that are targeted by the thatch harvesting programme. The household size and the number of dependents per household present a population profile peculiar to poverty-stricken households in rural areas in South Africa and other developing countries, namely larger households with a large number of dependents. This profile is further strengthened by data on the total monthly income for the households in the sample (Table 2).

Monthly household income	N	%
Less than R1000 (US\$95)	7	21%
R1001-R2000 (US\$96-189)	14	41%
R2001-R3000 (US\$190-284)	5	15%
R3001-R4000 (US\$285-380)	3	9%
R4001-R5000 (US\$381-475)	3	9%
R5001 and more (US\$476 and more)	2	6%
Total	34	100%

Table 2. Total monthly household income (excluding contribution of thatch harvesting programme)

From table 2 it is evident that 62% of households as represented by the harvesters interviewed earned less than ZAR 2000.00 per month. This translates to approximately US\$189.00 per month or US\$6.3 per day per household. Three respondents (8.8%) reported household incomes lower than ZAR450.00 per month per household (or US\$1.19 per household per day), placing these households below the upper bound poverty line of ZAR620.00 per capita per month [25]. The sources of household income in the sample comprised a combination of welfare grants, sporadic employment, self-employment and in one case formal, permanent employment.

Child care grants to the amount of ZAR300.00 per child were reported as sources of income by 26 of the households and 11 households reported that they benefited from a monthly old age pension of ZAR 1200.00 received by one or more of their family members. Occasional employment offers a limited contribution to the economic well-being of households. In some cases, occasional employment contributes to as little as ZAR100.00 per month, with the maximum amount earned through this form of employment being ZAR1500.00 per month. In six (17.7%) of the households, respondents indicated that self-employed individuals contributed to the household income, but the contribution was highly variable and ranged between ZAR 300.00 and ZAR 5000.00 per month. In one household, apart from the respondent, there was another member of the household who was part of a wetland rehabilitation and poverty alleviation programme run by Golden Gate, from which she received approximately ZAR 3500.00 per month. Notwithstanding these other sources of income, for 52.9% of households represented in this study, the only income that they received came from the involvement of one of their household members in the thatch harvesting programme.

Household expenditure is another indicator of the socio-economic well-being of households. Poverty-stricken households' consumption patterns are focused on day-to-day survival. A large proportion of household expenditure satisfies subsistence needs such as food and energy, with the consumption of higher-end consumer products such as electronic equipment and household appliances not forming part of the day-to-day household expenditure. In poverty-stricken households, even consumption of electricity is often regarded as a luxury, with energy needs being satisfied by relying more on freely available, or cheaper natural resources such as wood, animal dung, coal or paraffin. The data confirms that most, if not all, of the household income reported by the respondents in the sample was absorbed by day-to-day living expenses such as food and energy, with a small proportion of the household income going towards other needs such as transport and schooling. No household represented in the sample was required to pay rent for their dwellings, therefore no household expenditure went towards securing shelter. Electricity was purchased by 55.9% of households, but judging from the amount of purchased electricity (ZAR 100.00 per month), this was not the primary source of energy used by households. A fairly large number of households (41.2%), indicated that they did not spend any of their income on transport costs. This may again point to the fact that these households were characterised by low levels of economic well-being. Low transport costs may be indicative of an inability to afford transport, but may also reveal high unemployment, as households do not need to make use of transport to travel to work. Those households that did report transport costs as part of their expenditure spent relatively little (less than ZAR 600.00 per

month) on transport. The linkage between transport expenses and poverty is further substantiated by data on how one of the beneficiaries transported thatch harvested for personal use. This respondent indicated that she carried the bundles that she harvested home on foot, opting to not make use of other forms of transportation in order to save costs.

Households do not generally spend money on luxury items such as furniture, with furniture purchases rather being reserved for when extra cash was available. The four households that do spend money on furniture on a monthly basis all indicated that they are paying off store accounts for furniture purchases. Even expenditure on cell phones is not a regular household expense with only 5.9% of households purchasing air time on a monthly basis. Household expenditure on cell phone air time is very little, ranging from between ZAR 12.00 to ZAR 75.00 per month. Two households indicated that they paid clothing accounts on a monthly basis and only six (17.7%) respondents contributed to a funeral scheme on a monthly basis. Thus, it seems that households live from hand-to-mouth, with very few of the households being able to purchase consumer items such as furniture and clothing on credit, or, more importantly being able to make a monthly commitment towards their future financial security. None of the respondents indicated spending household income on any form of leisure or recreational activities such as family vacations. This does not, however, suggest that households do not fulfil the need for *play and leisure*, which according to Nussbaum (2007: 21) is regarded as a basic human right. Households partake in leisure activities such as community gatherings or cultural events that are not dependent on an economic contribution.

Another indication of the low level of socio-economic well-being experienced by these households is seen in the level of educational attainment of the respondents. For South Africa as a whole, there is a close correlation between the educational level of the household head and poverty, with 65% of households where the head had no formal education, compared with 2,8% of households where the head had a post secondary school qualification [25]. Only 9% of the respondents in the sample completed their secondary schooling, with 41% having partly completed their secondary schooling (Table 3). Low educational attainment is linked to lower economic prospects and reduces the ability of respondents to contribute to the material well-being of their households. Low educational attainment also has an impact on the future educational prospects of children growing up in these households, which then impacts on their future employment prospects. Thus, low educational attainment contributes to perpetuating the cycle of poverty and low levels of well-being that these households are subjected to.

Educational attainment	N	%
None	6	18
Completed primary school	11	32
Partly completed secondary school	14	41
Completed secondary school	3	9
Total	34	100

Table 3. Respondents' level of educational attainment

Low educational attainment does not only impact on current and future material well-being, but also constrains the day-to-day functioning of people. This is evident in the data on literacy-related questions asked to respondents. With regard to the literacy levels of those interviewed, the majority of the respondents (85.3%) reported having no difficulty in writing their own names. However, the ability to read, write and consequently, the ability to fill out forms, ranged from no difficulty to being unable to do this at all (Table 4).

Literacy ability	No difficulty	Some difficulty	A lot of difficulty	Unable to	Total
Reading	8 23.5%	12 35.3%	8 23.5%	6 17.6%	34
Writing	7 20.6%	14 41.2%	7 20.6%	6 17.6%	34
Filling out forms	7 20.6%	8 23.5%	7 20.6%	12 35.3%	34

Table 4. Respondents' ability to read, write and fill out forms

The majority of respondents experienced at least some difficulty in performing the skills of reading and writing, which in turn translated into a lower ability to fill out forms. Only between 20% and 23% of respondents indicated that they didn't have any difficulty with these three skills. While six (17.6%) of the respondents were unable to read and write at all, and consequently were unable to fill out forms, a further 17.6% of respondents also indicated an inability to fill out forms, despite their ability to at least read and write to some extent. This is an indication of low educational attainment as well as low skill levels that in turn impacts the respondents' ability to find stable and secure employment. Consequently, it can be assumed that due to these low levels of education and literacy, coupled with unemployment and underemployment, respondents and their household members are seriously constrained by their socio-economic circumstances to achieve higher levels of well-being.

The following sections serve to ascertain to what extent the thatch harvesting programme has positively contributed towards raising the level of well-being of its beneficiaries, and subsequently the households of which they form a part of.

5.2. The health and well-being of beneficiaries to the Thatch Harvesting Programme

The results presented with regards to well-being pertain to the 2012 harvesting season. For the 2013 harvesting season, half the respondents who harvested during the 2012 season re-applied and were granted permits to harvest again in 2013. The other half did not apply for this particular year and gave two reasons for this. These respondents stated that they either did not apply on time, or they did not profit sufficiently from harvesting in the previous year and therefore ventured into other areas of employment. However, during the 2013 season thatch harvesting was stalled due to two massive fires that destroyed the areas allocated for harvesting. This resulted in beneficiaries not generating any income for that year.

With regards to the 2012 season, all of the respondents indicated that the programme has benefited them in some way, even though they only participated in one season of harvesting (during 2012). Most respondents remarked that their lives before participating in the programme were difficult and that their lives improved as a result of their involvement in the programme. Only one respondent expressed the opinion that her quality of life had not changed much since participating in the programme. Additionally, when asked whether the programme had in general affected them negatively in any way, 79.4% respondents indicated that it had not. The benefits of the programme for the participants, and consequently for their households, become more nuanced when gauged according to the dimensions of well-being of the Millennium Ecosystem Assessment.

5.2.1. Material well-being

Material well-being, according to the definition of this dimension [13], is the individual's experience of a good and secure life through prospects such as income, assets, livelihoods, shelter, clothing and access to goods.

For the 2012 harvesting season, most respondents did not harvest large volumes of thatch. Almost half of the respondents (45.5%) harvested an average of 5 to 10 bundles per day, whilst a further 30.3% of respondents averaged 11 to 15 bundles per day. This amount was harvested over a 30 day period allotted by the park's management. However, even though a 30 day period was allotted for harvesting, this included weekends when transport was difficult to obtain, and subsequently respondents were actually only able to harvest for 20 days during this allotted period. Only 6% of respondents managed to harvest more than 25 bundles per day (Figure 3).

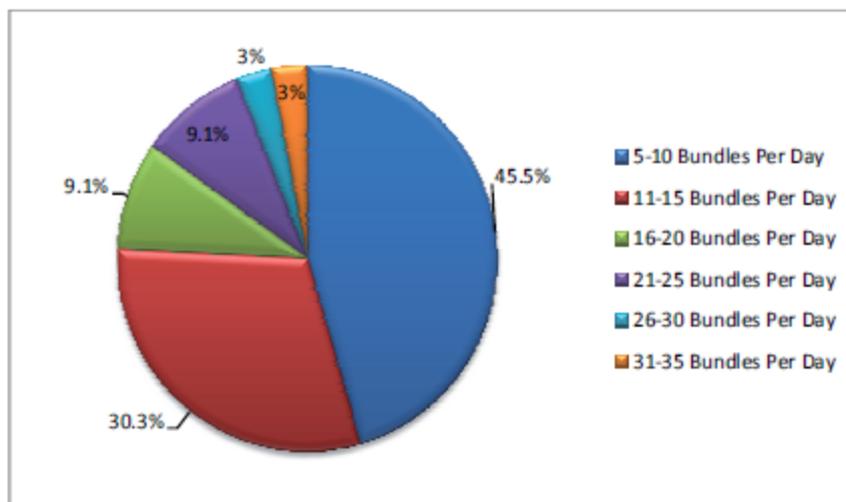


Figure 3. Average Number of Bundles Harvested by Respondents per Day (N=33)

Many beneficiaries were unable to indicate the actual amount that they had earned during the harvesting season as they were paid either daily or weekly for the number of bundles they harvested. This may enforce the earlier analysis that highlighted the hand-to-mouth existence of beneficiaries to this programme. The total income was calculated according to the average number of bundles that each respondent was able to harvest within a day. Each bundle was sold at approximately ZAR12.00. The equation used to calculate the total thatch harvest of respondents is as follows: (Number of Bundles per day X 20 days) X ZAR 12.00=Total individual income. Based on this calculation, the total income generated from the thatch harvesting programme approximated to ZAR104,580 for the 2012 season. This amounts to an average of ZAR3,076 for each of the 34 respondents in the sample, although eventually the per capita income depended on the actual number of bundles harvested per person per day.

Thirty three (33) of the 34 respondents actively harvested thatch, while one respondent was contracted as a driver by a harvesting coordinator to collect and transport the thatch harvested. Most of the respondents (91.2%) sold their harvest to the harvesting coordinator. These beneficiaries indicated that they were recruited by the harvesting coordinator to take part in the programme. The harvesting coordinator bought the thatch bundles from the beneficiaries and in turn sold this harvest to commercial thatching companies. One respondent indicated that the thatch harvested was used to repair the roof of their dwelling, while another respondent harvested thatch to make brooms and small carpets to sell to tourists and community members. Thus, only two of the respondents did not form part of the economic supply chain involving the harvesters, the harvesting coordinator and the thatching companies. The respondents therefore seem to prefer the security offered by having an immediate buyer for their thatch, rather than using the income obtained for the funding of entrepreneurial enterprises, which may prove to be more uncertain in terms of securing material well-being- especially in the short term.

One respondent, as indicated above, used the thatch as input material for a small entrepreneurial enterprise. Three other respondents indicated that the money received from selling thatch contributed to start-up capital for new businesses. One respondent used her money to fund the start-up of a small sewing enterprise. Another respondent purchased fresh produce to sell at the local markets, enabling the start-up of a sustainable small business supplying local markets with fresh produce. One other respondent was able to purchase enough stock to start a tuck shop close to one of the local schools in Qwa Qwa. Although at a very small scale, these cases are indicative of the potential of the programme to stimulate entrepreneurship and as such to contribute to a more sustainable economic well-being of beneficiaries. The number of respondents who saw the thatch harvesting programme as an opportunity for starting a new business is low, although this is on par with the general trend in entrepreneurship in South Africa. In a recent study on entrepreneurship in South Africa [26], it was found that only 37.8% of South Africans were of the opinion that there will be good opportunities to start businesses in the area in which they live within the next six months. This is much lower than the average of 74.5% for Sub-Saharan Africa as a whole. The same study [26] also revealed that only 42.7% of the South African adult population believe that they have the knowledge, skills and experience to start a new business.

The ability of respondents to purchase assets with the incomes they obtained from selling their harvested grass is indicative of an improved ability to gain *materialistic control over their environment* [17,24]. When analysing what respondents spent the money on which they received from selling the thatch that they had harvested, their improved material well-being is evident. Only four respondents reported that the incomes generated from the thatch harvesting programme were used towards purchasing basic necessities such as food and toiletries, while 38% of the items purchased were consumable items such as blankets, clothes and shoes. Respondents indicated, among others, that they purchased electronic equipment, furniture, household appliances and livestock. Over half of the expenditure (52%) mentioned by the respondents could be characterised as spending on household assets, while 6% of the items mentioned could be classified as spending towards improving existing assets, i.e. purchasing of building materials or vehicle parts. Interestingly, most respondents did not mention that the money received was used for subsistence needs such as food and transport, but rather emphasised their improved ability to purchase items that would not have been possible if they did not have the added income received from thatch harvesting. Thus the programme seems to have contributed to improving the material well-being of those households benefiting from the programme.

However, respondents did not include expenditure for items that would improve their quality of life in the long term, such as education. It appears that the satisfaction of short-term material needs was more of a consideration for respondents than working towards obtaining long-term and sustainable material well-being that would be achieved by contributing to savings plans, or pursuing further education. Only one respondent used his income from harvesting to improve his prospects for finding permanent employment as a truck driver in the foreseeable future by utilising some of the money from harvesting to go for driving lessons. While the programme has therefore managed to improve the short-term material position of the beneficiaries, the long-term material well-being of these people did not seem to improve markedly. At least 65% of the respondents indicated that they struggled financially and could not find employment. Some respondents (17.6%) indicated that they were offered sporadic employment by the park, i.e. working in the stable yards, repairing perimeter fencing, or as part of other poverty alleviation programmes run by the park. It can therefore be concluded that the programme has not benefited the long-term employment prospects of the beneficiaries significantly.

5.2.2. Health dimension

The health dimension of the Millennium Ecosystem Assessment [13] pertains to living in a healthy physical environment and to feeling well and being strong. For the purposes of this study, the analysis of the contribution of the programme is assessed in terms of physical as well as psychological well-being.

With regards to physical well-being, 82.3% of the respondents indicated that the programme had positively contributed towards their physical well-being. Of this group, 64.3% experienced being physically fitter and healthier, while 35.7% indicated that they felt physically stronger after participating in the programme. Some respondents, however, indicated that the pro-

gramme impacted negatively on their physical health. More specifically, they pointed at health issues such as allergic reactions to the grass (5.9%) as well as severe cuts and wounds on their legs that took long to heal (11.8%). The harvesters were not provided with protective clothing such as safety boots and gloves that would prevent such injuries from occurring. One respondent indicated that she had problems with her blood pressure and that the hard labour of harvesting worsened her condition. She resignedly stated: *“But what choice do I have? I must work”*. These negative impacts on health were, however, not experienced by the majority of the respondents. The latter did not mention any negative health impacts as a result of their involvement in the programme.

The grass harvesting programme does seem to have significant benefits for the psychological well-being of participants. Fifty nine percent (59%) of respondents indicated that the programme had positively contributed towards their psychological well-being. Half of the respondents who indicated a psychological benefit specifically pointed out that the involvement in the programme made them feel more positive about their future, while the other 50% mostly experienced emotional relief over their ability to cope with their financial pressures. Additionally, the consensus among respondents (67.6%) was that they were very happy to be able to work in the thatch harvesting programme and that the programme contributed to their sense of pride, dignity and independence (32.4%). These positive perceptions of subjective well-being since joining the programme indicate the fulfilment of the need for identity with regards to feelings of differentiation and recognition. Two of the respondents specifically pointed out that the programme boosted their confidence and self-worth, while one respondent stated that by being a part of the programme, he was able to improve his communication skills and this consequently boosted his confidence as well.

5.2.3. *The dimension of good social relations*

The dimension of good social relations includes aspects such as mutual respect, good family and gender relations, social cohesion and the ability to provide, when needed, for friends and children [13].

An important component of social cohesion is affiliation. Affiliation can be conceptualised as the capability of humans to be able to envision the circumstances of another entity, and to acknowledge and display concern for this entity as well [17,24]. Without a sense of affiliation, group cohesion is not attainable. Respect, dignity, equality and receptiveness are key factors in this need. The grass harvesting programme contributed towards satisfying beneficiaries' need for affiliation on two levels: Firstly, in relation to the communities of which the beneficiaries form part, and secondly, in relation to Golden Gate itself.

Overwhelmingly positive sentiments were expressed when respondents were asked about how their community perceived their involvement in the thatch harvesting programme. Most of the respondents (73.5%) stated that the community was very proud of them for working in the thatch harvesting programme. Almost one in every four respondents (23.5%) nevertheless reported that many community members were jealous because they (community members) had not been able to obtain permits to harvest as the beneficiaries had. The predominantly

positive perception about the beneficiaries' involvement in the programme may serve to bolster feelings of affiliation with the community and generate better group cohesion.

It also transpired that Golden Gate serves as a vital cohesive element in the lives of the communities surrounding the park. A large number of respondents (76.5%) often travelled through Golden Gate to reach the nearby towns of Clarence and Bethlehem, which means that the park serves to connect people from different surrounding communities to one another. The park is also utilised by community members for cultural and spiritual activities as well as for recreation and leisure purposes. One fifth of the respondents (20.5%) had used the park for cultural and spiritual activities such as initiation ceremonies and meditation, while 8.8% of the respondents had used Golden Gate for leisure and recreational purposes. Although the latter proportion might appear to be very small, it should be interpreted in the context of the high levels of poverty and unemployment that prevail in the region.

Figure 4 illustrates the respondents' perceptions regarding the importance of Golden Gate as a conservation area. Respondents were allowed to offer more than one response in this section.

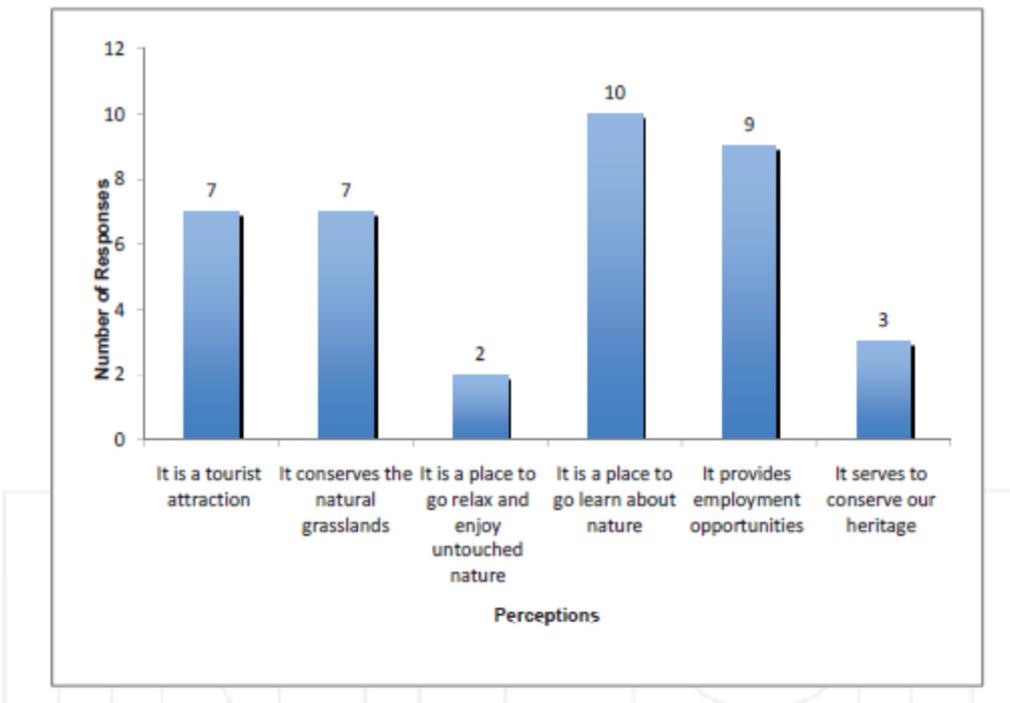


Figure 4. Respondents' perception about Golden Gate

All the respondents believed that the park is an important entity. The two most frequent responses given to substantiate this sentiment were that the park provided a place to go and learn about nature and that it provided employment opportunities. This was followed by responses such as "It is a tourist attraction" and "It conserves the natural grasslands". Notably,

three of these four categories mentioned are either directly or indirectly related to the park's contribution to employment and economic opportunities. Tourism was regarded as important by respondents because it provided them with an opportunity to sell their wares in the form of pots, brooms, baskets, mats and jewellery. The protection of grasslands was regarded as important by the respondents, since it is a direct source of income for them. Subsequently, several respondents stated that if everyone was allowed to graze their cattle in the park, live there and/or harvest the grass whenever they wanted to, then the opportunity to harvest good quality grass would be reduced. These respondents also indicated that it is important to set rules and boundaries in the park's conservation policy in order to ensure the future sustainable utilisation of resources and protection of the ecosystem services. Three respondents indicated that Golden Gate also served to conserve and protect their heritage—a heritage which they felt was an essential part of their culture and which they hoped their children and future generations might enjoy as well. Finally, two respondents felt that the park was an important place because it is where one can go to relax and enjoy the beauty of untouched nature.

Most of the respondents (94.1%) felt that the land should remain a protected area, despite the fact that this means that access to the park's resources are restricted. Only two respondents (5.9%) felt that the land should be utilized for economic practices rather than for conservation. These respondents felt that there was not enough grazing for cattle and that the land should be put to use for that purpose. The majority of the respondents therefore experienced a sense of affiliation towards Golden Gate. They were aware of the need for the land to be protected, the reasons thereof, and the benefits they gained from having a protected area so close to their local community.

The thatch harvesting programme also contributed to respondents being relieved at their ability to provide financially for their families. The majority of the respondents (85.0%) reported experiencing a sense of relief knowing that they were able to provide for their families. Poverty and a lack of employment are significant sources of family conflict. Thus, increased material well-being may serve to improve family relations. Interestingly, four respondents (11.8%) believed that some of their family members were jealous of the work they had found. This jealousy could again increase tension and impact negatively on family relations in these families. However, 30 (88.8%) of the respondents expressed that their family members were very proud of them because of the income they were able to generate from the project. Thus, overall, the conclusion can be drawn that the programme has contributed towards improving family relations and social cohesion in the neighbouring community.

5.2.4. *The security dimension*

This dimension refers to the ability to secure access to natural or other resources, living in a controllable environment and having security from natural and human-made disasters. The programme has to some extent contributed to improving the ability of respondents to secure access to natural resources by allowing them to harvest a natural resource for household use, as well as to improve their material well-being. Through their involvement in the programme, the respondents' knowledge of the natural environment, as well as the importance of conservation was somewhat improved. While only four of the respondents reported having received

some form of environmental education from the park, another seven indicated that they had received information from the harvesting coordinator in this regard. The information provided to the respondents included common rules applicable within many protected areas such as 'do not kill the animals', 'do not litter rubbish in the park', 'you may not start fires in the park', and lastly, 'do not destroy other plant life within the park'. Information such as this is vital in assisting beneficiaries to secure access to natural resources, in this case thatch, and also empowered respondents to secure themselves from the possibility of natural and human-made disasters such as veld fires – a very real hazard in a grassland environment. However, 67.6% of the respondents indicated that they did not receive any form of environmental education while being involved in the programme.

With regards to the correct techniques and procedures to harvest thatch, the overwhelming majority of respondents (87.9%) had prior knowledge of this activity. This knowledge is vital in enabling respondents to effectively access the thatch resources. Of these respondents with prior knowledge, 22 were taught by family members how to harvest while growing up, while seven respondents indicated that the harvesting coordinator taught them how to harvest the grass, how to cut, tie, and/or store the grass after harvesting and the appropriate length and thickness of the grass that should be cut. Some of the respondents expressed their gratitude towards the harvesting coordinator who imparted this knowledge to them, since they would have harvested the wrong types of grasses, or the wrong length and thickness without his assistance.

Thus, it appears that involvement in the programme has, at least to some extent, enabled beneficiaries to gain access to natural resources. With regards to having security from natural and human-made disasters, the programme did, in the context of the activity of harvesting itself, provide beneficiaries with knowledge to secure them from veld fires which are among the most commonly expected natural disasters in a grassland environment. Security from disasters, however, extends further than the day-to-day harvesting. As was previously discussed under material well-being, one respondent indicated that she used the thatch harvested for repairs on her roof, while three others used the money received from the thatch that they sold to buy building materials with which to repair and improve their dwellings. Through these activities, households are provided with the opportunity to enhance their security from some environmental hazards that plague households that are not able to afford proper dwellings.

5.2.5. The dimension of freedom and choice

The dimension of freedom and choice refers to individuals having control over their lives and their values. From the data it transpires that 32% of the respondents reported that, before working on the programme, they felt helpless because they stayed at home doing nothing while their families had to struggle to find money to sustain the basic needs of those living within their household. Through the income provided by the programme, beneficiaries could expand the choices that they made about their immediate consumption patterns as well as their future well-being. This is evident in the different ways in which beneficiaries opted to spend the income they received, i.e. improving their dwellings, buying appliances and

electronic equipment, enrolling for driving lessons, using the money as start-up capital for small businesses and buying equipment such as sewing machines which would enable them to expand their future choices.

5.2.6. Responses from commercial companies

One of the key issues identified during the interviews with the two commercial companies that purchase the grass harvested at Golden Gate, was the lack of knowledge, skills and training of harvesters with regards to correct methods of harvesting thatch. This has resulted in both these companies receiving, at some point in time, bundles of thatch not suitable for use. Challenges included the following: the grass still being green when harvested; it was the wrong species of grass; the thatch was not straight; it was too thick, and/or it had not been cleaned properly. These challenges pose as major concerns regarding the sustainability and potential opportunities of this programme in the future. For instance, grass that is still green when cut means that the seeds have not yet had time to dry and drop from the stalk. Consequently, the premature harvesting of grass which may result in the absence of future re-growth could severely jeopardise the availability and sustainability of harvestable grass at Golden Gate in the future.

In addition to this, both companies strictly conform to guidelines set by the South African Bureau of Standards wherein the thickness, length, species and quality of the thatched bundles are core principles and must be stringently adhered to. Subsequently, these companies are forced to return grass that is unsuitable for use without payment or transport subsidy. Not only is this a waste of natural resources, but it also threatens the livelihood of these companies in that they rely heavily on the supply of thatch from harvesting coordinators. Augmenting this is also the negative impact this will have on those harvesting coordinators who had provided the thatch. The cost of transporting the grass from Golden Gate to the aforementioned companies is only viable if the grass can be sold upon arrival, and the return of unsuitable grass can result in harvesting coordinators such as the one previously mentioned, facing disgruntled labourers coupled with payment disputes. These issues can serve to heavily undermine the development of budding entrepreneurs such as this, and may result in the harvesting coordinator being forced to cease his/her operations. Even more worrying in a situation like this, is the fact that those labourers who had vested their time and physical energy to harvest the grass, must return to their homes empty-handed. Subsequently, lack of knowledge, skills and training has the potential to create this trickle-down effect and poses as a major challenge to the sustainability of this programme.

In order to prevent a situation such as this, it became clear that an intervention of sorts would be necessary. Upon enquiry, one of the commercial thatching companies indicated they would be willing to provide training sessions to those beneficiaries who have been granted permits to harvest in the park, wherein the beneficiaries will be provided information regarding matters such as the environmental impact of harvesting, how to identify the correct species of grass, the correct way to cut the grass, the required length and thickness of the grass, and how to properly clean the bundles for sale. Not only will this improve the knowledge base and skills

of the beneficiaries, but it will also serve to enhance the sustainability and viability of this project in the future.

Taking the above findings into consideration, the following section will serve to highlight the challenges faced by the thatch harvesting programme and the beneficiaries' responses to possible ways in which the programme can be improved.

5.3. Challenges faced by beneficiaries to the thatch harvesting programme

While the programme seems to have contributed to improving the overall well-being of respondents and their families, respondents also experienced some challenges while being involved in the programme and offered some suggestions for improving the programme for future beneficiaries (Table 5).

Challenges	N*	Suggestions for improvement	N*
Insufficient time to harvest grass	18	More time should be given to harvest	16
Rangers treat us badly when we are there to harvest	5	The park should provide tools/equipment for harvesting of thatch	14
Fires destroy our income we rely on being able to cut grass	5	The park should provide toilet facilities	12
The park does not advertise the programme early enough	2	The park should burn fire breaks earlier to protect the grass	6
It is difficult to find buyers	1	The park should provide training to improve harvesting skills	4
They (the park) do not provide tools/equipment	1	The park should help us find people to buy our bundles of grass	3
		The park should advertise the programme earlier	2

* The n-values in table 5 indicate the number of respondents who identified each issue. Respondents could indicate more than one challenge or suggestion, or nothing at all.

Table 5. Challenges experienced and suggestions for improvement

From the data above, the biggest issue faced by respondents relates to insufficient time for harvesting. Eighteen of the respondents highlighted that the time allocated for harvesting was too short. This was followed by the issues of rangers treating them badly while harvesting and the issue of fires that diminish their potential to harvest. The respondents pointed out that fires destroyed the viable grass allocated for each season, forcing them to harvest in areas that were not designated by the park for harvesting. Park officials have indicated that they were aware of this challenge and, with the assistance of the harvesting coordinator, would choose harvesting areas more carefully for the coming seasons, and would also demarcate the allotted areas better to prevent people from harvesting in undesignated areas.

Some respondents felt that the park does not do enough to advertise the programme in a timeous manner. This leaves people little time to apply for the programme. When asked if they had experienced any problems with the application process, seven (20.6%) respondents indicated that they had not experienced any problems, whilst 19 (55.9%) felt that the process took too long. Other respondents added to this by stating that, by the time the permits were granted, the period for harvesting had already begun, and that this increased the risk of fires destroying the grass before they could harvest. The remaining eight (23.5%) respondents expressed having felt frustrated during the application process because they did not know when to pick up their permits. The park officials reported that during 2012, they noted a number of individuals that had come to harvest before and during the time allotted for harvesting who did not have permits. This made it difficult to ascertain and monitor who had permits to harvest and who did not. It must also be noted that during the interviews with the beneficiaries it transpired that a few of those who had harvested in 2012 were individuals who did not reside in the local community as defined by the park. It was reported that these individuals borrowed identity documents from members of the local community to pass off as their own in order that they might harvest. This challenge is an important one, as the purpose of the programme is to benefit members of the local communities only. Subsequently, illegal harvesting has posed as a major challenge for the park and for local communities who should benefit from access to the natural resources in the park.

Furthermore, there appeared to be miscommunication between the park management and the local community with regards to the nature of the programme. This came in the form of local community members perceiving the thatch harvesting programme to be a source of employment, whereas this programme is only offered as an opportunity to utilise the park's natural resources for their own benefit. Lastly, the respondents raised the issue of the park not providing them with tools or equipment with which to harvest, and a large number of respondents (n=14) suggested that the park should equip them with the necessary harvesting tools. Also, during the focus group session with the park officials, it was indicated that Golden Gate had established networks that formed part of a park forum wherein there are various traditional leaders that act as representatives within their local communities and serve to communicate issues of mutual concern. However, when asked; none of the respondents were aware of any community representatives, nor of any community meetings held with regards to projects made available by the park. In a similar vein, none of the beneficiaries interviewed reported having heard of any community members being involved in decisions regarding the thatch harvesting programme.

6. Conclusion

Due to the poor socio-economic conditions surrounding the park, most respondents and their households depend heavily on the income earned from their involvement in the thatch harvesting programme. In fact, more than half of the households represented in the sample have no other source of income except for the employment of one of the household members on the programme. Thus, although the immediate benefits of the programme are limited to

only a tiny proportion of the community, these benefits still make a significant and tangible difference to the well-being of those households living on the edge of subsistence. As has been confirmed previously by other outreach programmes in protected areas [3], this 'limitation' should nevertheless not be seen as a defect or an impediment of the thatch harvesting programme, but should serve as a constant reminder of what is realistically achievable with programmes of this kind offered by national parks and other protected areas in developing countries. Arguably, the main strength and impact of the programme – and other programmes of this kind – is not so much to significantly reduce poverty among a large proportion of households, but rather its ability to cultivate positive perceptions regarding conservation, sustainable utilisation of ecosystem services and the specific protected area in particular, among the local population.

The thatch harvesting programme, at this stage, seems to be constrained by logistical and administrative challenges such as permits not being granted in time for harvesting, an unclear selection process and poor supervision of park officials to ensure that harvesting does not impede on the conservation function of the park. Anecdotal evidence from the interviews suggest that in some cases grass is harvested illegally, thus limiting the benefits that should trickle to local communities. This has also been found in a previous study conducted in the same park [27]. Although the current park management plan (compiled in 2011) provides the legal framework for the managing of natural resources at Golden Gate, the plan fails to quantify and account for the resources that are being harvested by adjacent communities. More specifically, the park's management plan does not adequately demonstrate *what* is being harvested, or the *extent* and *impact* of grass harvesting in the park. If managed properly, grass and grass harvesting can provide a long-term sustainable benefit to neighbouring communities and economic institutions, but the guidelines for such harvesting need to be set clearly in the park's management plan. Consequently, as previously pointed out [27], there is a clear need to monitor, evaluate and set the boundaries for grass harvesting in the park, and to clearly stipulate these limitations in the management plan. This problem, however, is not unique to Golden Gate, as there is a general lack of published research on resource extraction from national parks in South Africa, as well as from protected areas in general.

Based on the findings of the study, a small proportion of the community does seem to benefit from their involvement in the thatch harvesting programme. The data offers evidence of improved material well-being, better physical and psychological health, enhanced group cohesion, environmental security and more freedom of choice for beneficiaries. The impacts of the programme are however, for most respondents, short term. Only a limited number of respondents have used the money obtained from harvesting to enable the fulfilment of sustainable long term economic pursuits as is evidenced by the four respondents who managed to start small businesses and the one respondent who used the money to obtain a drivers licence.

In conditions of severe poverty and high levels of unemployment such as those that prevail in the area surrounding Golden Gate, natural resources play a crucial role in sustaining people's livelihoods. Under these conditions, the harvesting of grass for a commercial market presents an opportunity for the local community to increase their income base and improve their well-

being. However, as previously concluded [23], more grass would have to be harvested to meet the demands of a commercial market than would be required for household use or producing items for a local market. In other words, although an increase in grass harvesting holds potential benefits for increased human well-being in the local community, an increase in the commercialization of harvesting at the same time requires strict monitoring and evaluation mechanisms to ensure a sustainable supply of raw materials and mitigation regarding the impact on the protected area. Since none of the businesses interviewed are involved in grass management and protection, they are potential victims of overharvesting and resource depletion as much as the members of the local community. Resource harvesting in a protected area that supplies the demands of a commercial market thus clearly requires different rules and monitoring mechanisms, than rules aimed at the regulation of such activities at a local level and only for the strict benefit of the local community.

With reference to the impact of the thatch harvesting programme on the ecosystem of the targeted areas allocated, the results remain indefinite. The reason for this being that the programme only became active in 2012, and in 2013 a massive fire swept through the parks grasslands, subsequently also destroying the areas allocated for harvesting. As a result of this, coupled with the fact that this programme is relatively new, a detailed analysis of these areas regarding the grass species composition, vegetation structure and biomass measure following the harvesting in 2012 has not yet been finalised. SANParks (Division of Scientific Services) has initiated a vegetation monitoring project in two of the areas that form part of the harvesting programme. It is, however, a long term monitoring process and no informed conclusions could be made in the relatively short period that the monitoring project has been running in the park. Early indications are nevertheless that the grassland ecosystem in the park, as well as the patterns and processes that are associated with it, have not been negatively affected by the harvesting programme. In areas where the grasses have been harvested the height of the grassland is lower than the conventional 1.8 meters (Species *H. dregeana*), but apart from this visual impact it appears that the species composition of the grassland has not changed and the same grass species still dominates these areas. Currently harvesting is taking place on old agricultural lands that were previously ploughed and grazed in the time of commercial farming activities in the area. The main two grasses that are being collected are *Hyparrhenia cf. hirta* (common thatching grass) and *Hyparrhenia cf. dregeana* (thatching grass) which are often found in disturbed and degraded areas such as these. The sustainable manner in which these grasses are harvested also contributes to the stability of the degraded land that it occupies. In fact, the harvesting of these grasses improves the palatability for other grazers of the wildlife group within the park, and assists in supporting a natural succession process in these degraded areas. The harvesting (clearing of grasslands) also allows for other plant species to thrive within an area usually dominated by one or two plant species.

However, there were some concerns regarding the use of some of these areas by grass owls (*Tyto capensis*) for nesting. Consequently, in order to determine the impact of the harvesting on this species, a habitat assessment of possible areas has been proposed. Practices in other protected areas have nevertheless shown that, despite all efforts of national parks to conserve biodiversity and ecosystem integrity, unsustainable resource use remains a threat because

ecological functions and processes often occur over larger spatial scales [28]. To ensure that an ecosystem such as the grassland biome retains the ability to renew itself, additional land is needed for the expansion of national parks. In South Africa, national population policy drivers such as social redress and poverty alleviation, strongly influence resource use in national parks. This means that localized management solutions for ecosystem integrity and resource use should be embedded in a broader systems approach that recognizes the interface between protected areas and their surrounding communities, while also acknowledging the complex, multiple and reciprocal relationships of sustainability between ecological and socio-economic components in the environment.

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