

# The Impacts of Commercialising *Commiphora wildii* in Two Conservancies in North Western Namibia



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## Abstract

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The role that non-timber forest products (NTFPs) play in the lives of rural people is increasingly acknowledged. Commercialising these products is seen as a strategy to alleviate poverty in developing countries. In this study one such product is explored, namely an essential oil derived from the Namibian plant *Commiphora wildii* (*C. wildii*). This NTFP is valued for its scent and is used in the manufacturing of perfumes. The resin is harvested by the Himba indigenous group in north western Namibia. The harvesters who took part in this study reside in the Puros and Orupembe registered conservancies and community forests, which are part of the Namibian government's community based natural resource management (CBNRM) programme. *Commiphora wildii* is used traditionally by the Himba as a perfume in a daily beauty ritual. The aim of this research is to determine the impacts of commercialising *C. wildii* on the communities in the two conservancies. This study 1) examines the process of commercialisation 2) analyses the impacts on the harvesters in terms of changes in culture, economic impacts, social benefits and problems that have arisen and 3) To provide recommendations to the options that could be considered to mitigate negative impacts. A mixed methods approach, using mostly qualitative and some quantitative methods was used to determine the impacts on the harvesters. Methods included participant observation, semi-structured individual interviews and key informant interviews. Results found improved access to food, schools and health care as a result of the income gained from harvesting *C. wildii*. In addition it was noted that women who took part in the harvesting project were empowered through taking on ownership of the economic activity. Analysis also revealed implications for cultural use, livestock farming practices and equity within the community. Using a Sustainable Livelihoods Framework, the enterprise was analysed as a livelihood strategy to determine its overall benefits and costs to the community. Conclusions suggest that the enterprise contributes significantly to the overall well-being of the harvesters and their families. It is recommended that threats to the enterprise, such as market interest, a discontinuation of NGO support and conservancy institutional issues be planned for and avoided if possible. Some social problems and negative impacts on traditional use should be acknowledged and addressed.

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**Key words:** Non-timber forest products (NTFPs), sustainable livelihoods, commercialisation, *Commiphora wildii*, community based natural resource management (CBNRM), Puros and Orupembe, Himba, social impacts.

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# Dedication

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In memory of my loving father, Ian A Galloway

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## List of acronyms and abbreviations

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- ABS – Access and Benefit Sharing
- AGM – Annual General Meeting
- BPM – Buying Point Manager
- CBD – Convention on Biological Diversity
- CBNRM – Community Based Natural Resource Management
- CRIAA – Centre for Research Information Action in Africa
- DoF – Directorate of Forestry
- DFID – Department for International Development (UK)
- IPTT – Indigenous Plants Task Team
- IBPC - Interim Bioprospecting Committee
- IRDNC – Integrated Rural Development and Nature Conservation
- ILO – International Labour Organisation
- NGO – Non-government Organisation
- NTFPs – Non-timber Forest Products
- MAWF – Ministry of Agriculture, Water and Forestry
- MCA-N – Millennium Challenge Account Namibia
- MET – Ministry of Environment and Tourism
- SADF – South African Defence Force
- SLA – Sustainable Livelihoods Approach
- UNSCN – United Nations Standing Committee on Nutrition
- UNAM – University of Namibia
- WIPO – World Intellectual Property Organisation
- WWF – World Wide Fund for Nature

# Chapter 1: Introduction

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## 1.1 The commercialisation of plant products

This dissertation examines the social impacts of the commercialisation of a plant product on two communities in north western Namibia. The term ‘non-timber forest product’ or NTFP can be used to describe a variety of forest products, including bush meat, honey, resin, spices and fodder for livestock (Delang 2005; Shackleton *et al.* 2011a). A common definition for NTFPs is all biological materials, except for timber, that are harvested from forests for use by humans (Stockdale 2005; Pyakurel & Baniya 2011; Shackleton *et al.* 2011a). The trade in NTFPs is seen as a ‘minor’ industry or of secondary importance compared to timber extraction. However, there is evidence that NTFPs contribute extensively to maintaining livelihoods in rural Africa, Asia and other developing countries (Stockdale 2005; Heubach *et al.* 2011). Historically there has been little information about the impact of commercialising NTFPs on rural livelihoods, especially for those species that are only consumed locally (Delang 2005; Stockdale 2005). In the past two decades a growing interest has emerged in the value and use of NTFPs in developing countries and studies have shown the important role that NTFP harvesting can have on the lives of rural people (Delang 2005; Heubach *et al.* 2011; Pyakurel & Baniya 2011).

Contributions made by NTFPS can either be through direct consumption, thus supplementing nutrition or saving costs on purchasing medicines, cosmetics, fuels and other goods, or by commercialising the NTFP for income. While commercialising NTFPs is widely viewed as a means of reducing the vulnerability of marginalised groups of people (Wynberg and Laird 2007; Shackleton *et al.* 2011c) there are numerous arguments about the actual benefits. Possible benefits identified include prevention of otherwise intensifying household poverty, empowerment of women in rural areas, strengthening of bonds or social networks between harvesters and a sense of community pride (Shackleton *et al.* 2011b). A commonly noted disadvantage is the associated ecological impact that may occur, often with a loss of traditional or social control over a resource (Stockdale 2005). Also viewed as a negative implication is that the local use of products is sometimes discontinued once they are commercialised (Shackleton *et al.* 2009). Some have argued that commercialisation can also be a ‘poverty-trap’ because of the products’ easy accessibility and low capital requirements

which allow people to survive on minimal income without much possibility for economic growth (Sunderlin *et al.* 2004). NTFP commercialisation can also have indirect impacts on the social customs of communities participating in harvesting and it is evident that there are many factors to be considered in promoting the development of NTFP-related industries (Shackleton *et al.* 2009; Shackleton *et al.* 2011b).

This dissertation explores a NTFP found in the isolated north-western Kunene Region of Namibia is explored. The resin from the shrub-like tree, *Commiphora wildii*, that occurs on rocky, mountainous slopes on the fringe of the Namib Desert (Coates Palgrave 2002) is harvested and sold as a component in perfume manufacturing. This enterprise was initiated with donor funding and is supported by a local non-government organisation (NGO), the Integrated Rural Development and Nature Conservation (IRDNC). The Himba indigenous people harvest these plants for their personal use and also for commercial gain. The Himba are recognised in Namibia and the rest of the world for their nomadic lifestyle and their characteristic traditional appearance that includes covering their bodies in a mixture of red ochre and butterfat (Jacobsohn *et al.* 1990). They are described by the *Atlas of Poverty in Namibia* (2010) as being in the poorest segment of the country's population, with an annual expenditure of less than N\$2121 per person per year.

In this study the process of the commercialisation of *C. wildii* are examined in the context of two geographical areas, Puros and Orupembe Conservancy and Community Forests. Research focused mainly on changes in the social sphere of the lives of people who are involved in the harvesting enterprise. Various direct and indirect impacts were considered that arose from the commercialisation of *C. wildii*. Social problems and benefits are also reflected on, including possible changes in culture and tradition. The role of relationships and power are explored, including affects by the enterprise. The *social* impacts of *C. wildii* commercialisation are thus the central focus of this study.

The theme of 'traditional knowledge' has entered discussions on intellectual property rights and fair and equitable benefit sharing since the 1990s (Lewinski, 2008). It has become a contentious issue as industries that have had access to the traditional knowledge and resources which 'belong' to indigenous people have often used such knowledge and resources to develop products and to exploit them in global markets. The value of traditional knowledge to indigenous communities has been realised by many and an attempt to address the associated exploitation has been made by organisations such as the World Intellectual

Property Organisation (WIPO), the International Labour Organisation (ILO) and through the various national laws and international conventions. Article 8 (j) of the Convention of Biological Diversity (CBD) states that signatories to the CBD are to respect, preserve and maintain the knowledge, practices and innovations of traditional and local communities (CBD 2010). It goes on to state that the equitable sharing of benefits that may arise from the utilisation of traditional knowledge should be encouraged. The Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization (adopted in Nagoya, Japan, in 2010) is another mechanism that has evolved from the CBD that aims to advance the objective of fair and equitable benefit sharing from utilising biodiversity.

An integral aspect of this study is the fact that the Himba hold the traditional knowledge of the perfume use of *C. wildii*. The Himba practice of creating a mixture of butterfat and ochre and infusing it with the scent of the resin of *C. wildii* has existed for many generations and is part of their culture. This has implications for how this product is traded. Namibia is a signatory to the CBD, is currently drafting Access and Benefit Sharing (ABS) legislation and has recently become a signatory to the Nagoya Protocol. However, in the absence of national ABS legislation to govern equitable distribution of gains from genetic resources, Namibia has hitherto been unable to fully implement ABS. However, Namibia's ABS Bill has recently been approved by Cabinet and is ready to be tabled before Parliament for enactment. Namibia is expected to ratify the Nagoya Protocol once the ABS Bill becomes an Act of Parliament. To date, Namibia has regulated ABS through contracts, existing laws and the engagement of a range of stakeholders through an Interim Bioprospecting Committee (IBPC), established in 2007 to regulate and facilitate all bioprospecting activities. The draft bill on ABS, which has undergone regional consultations as part of the review process, would create a new dedicated unit on traditional knowledge and genetic resources within the Ministry of Trade and Environment and would replace the IBPC. Enterprises that involve trade in products with traditional knowledge aspects, such as *C. wildii*, will have to adhere to these regulations. Although Namibia is still establishing regulations to achieve benefit sharing, in the case of the *C. wildii* this concept is being played out without the overarching regulations in place. In anticipation of these regulations and also in order to achieve the maximum amount of benefit for the community, negotiations with buyers of *C. wildii*, by the supporting NGO, included the idea of a communal benefit fee for the community as a whole as compensation for use of their traditional knowledge used. How this benefit is shared amongst the community is

discussed later in this work.

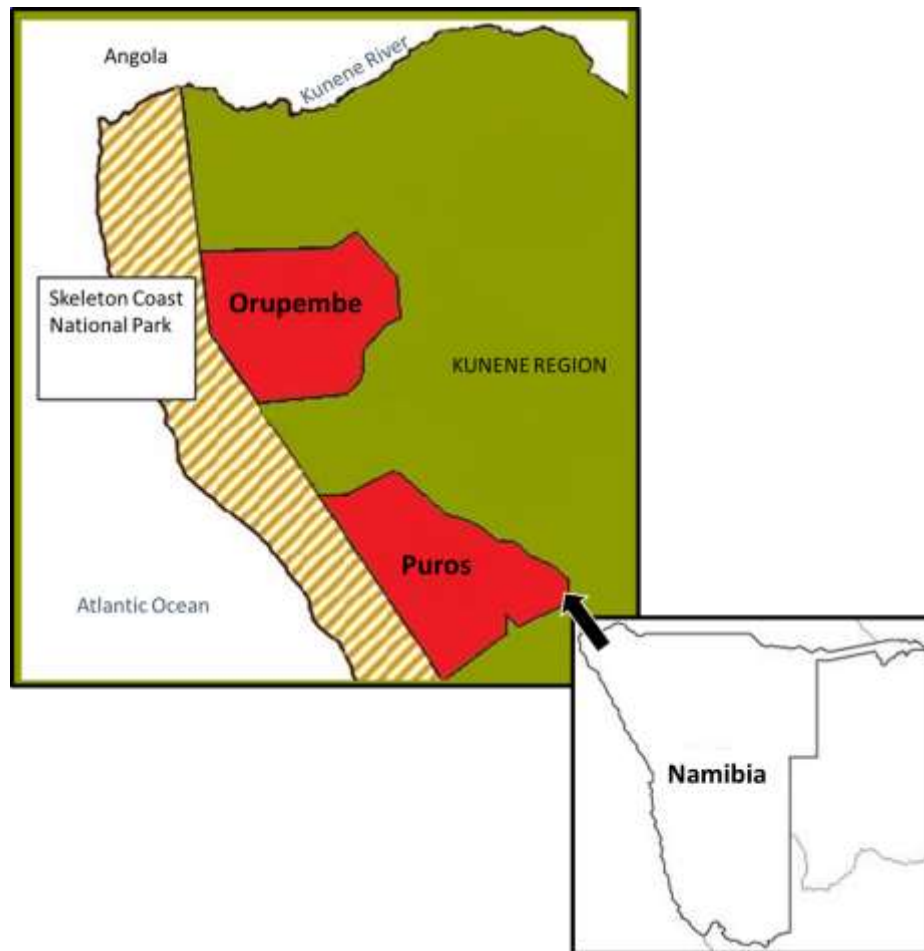
This research has been done in cooperation with the Integrated Rural Development and Nature Conservation (IRDNC), a local NGO that has supported the two conservancies studied, in the selling of NTFP products as well as in their organisational development and management of wildlife resources. The study thus also makes recommendations to IRDNC as well as to other NGOs or Government organisations regarding their support for similar community-based enterprises.

## 1.2 The context: Namibia and the CBNRM policy

Namibia's national community based natural resource management programme (CBNRM) aims to link democracy and social and economic development to the conservation of Namibia's natural resources (Nott and Jacobsohn 2004). The CBNRM programme uses a free enterprise and common property management approach to promote sustainability and improve rural livelihoods (Nott and Jacobsohn 2004). This programme, introduced after Namibia's independence in 1990, devolves the management and benefits of natural resources to local communities in order to provide an incentive for the sustainable development and management of these areas (NACSO 2010). In order to implement the policy, communities organise themselves into institutions that enable co-operation between them and the Ministry of Environment and Tourism (MET) and the Ministry of Agriculture, Water and Forestry (MAWF). The terms 'conservancy' and 'community forest' are given to these common property management structures that local communities can form to become legally recognised entities (NACSO 2010). In practice there are two branches of CBNRM in Namibia, namely the 'conservancy' which allows for the management and sustainable use of wildlife, and the 'community forest' which legalises control over forest resources (NACSO 2010). Once conservancies and community forests are registered they are eligible for support from government and NGOs to initiate enterprises based on the consumptive and non-consumptive use of natural resources. The NTFP enterprise, which is the subject of this study, is one such initiative and is thus located within the CBNRM framework of Namibia. This enterprise was started in 2007, with the support of IRDNC, and aims to provide a source of income for the community (IRDNC 2011).

The registered conservancies and community forests of Puros and Orupembe are two legally recognised community institutions in the arid Kunene region of Namibia, bordering on the Skeleton Coast National Park (NACSO 2010,MAWF 2012) (see Figure 1 and Figure 2).

These regions hereafter referred to simply as Puros and Orupembe, are home to the Himba indigenous group of people. A number of these conservancy and community forest members, referred to as ‘harvesters’ in this study, take part in the harvesting and commercial sale of the *C. wildii* resin and other trial products. The impacts that these harvesters have experienced from participating in the NTFP enterprise are the subject of this research.



*Figure 1: Location of the study sites (B Galloway 2012)*



*Figure 2: Arid environments of Puros (left) and Orupembe (right) (B Galloway 2011)*



### 1.3 Research rationale and significance

This study aims to uncover and understand the social impacts of *C. wildii* commercialisation. It aims to add to the global body of knowledge on the commercialisation of NTFPs, which is a growing field of interest as more people look to NTFPs as a way to alleviate poverty and promote sustainable land use. This study may also have local implications for management and regulation of the sale of this product. There is scope for this work to inform decision making by government, management committees and NGOs in the perfume plants enterprise and in similar NTFP initiatives.

This work adds to the academic endeavour towards understanding the issues surrounding the commercialisation of NTFPs in the developing world, including links to traditional knowledge holders. The research draws on a comparison between the Puros and Orupembe conservancies and community forests. Although these regions are similar in many ways, with the same culture and similar problems, there are also differences that are drawn on in order to verify conclusions. This comparative approach allows for the study to remain context specific while also showing where generalisations are likely to be valid.

Research deepens the understanding of the community impacts and thus assists those involved in planning. This study is particularly relevant to the local NGO, IRDNC, in their role as support agency to the harvester communities. Findings from this study add to research already done by the organisation and can be considered in future interventions in the area. This research is also relevant to other organisations, government and communities in the support and management of the sale of NTFPs and similar enterprises.

### 1.4 Research aim and objectives

As already mentioned, the aim of this research is to explore the social impacts of the commercialisation of *C. wildii* on Himba communities in Puros and Orupembe. This exploration involves examining what has ‘changed’ with the introduction of commercialisation. The research explores changes in relationships and power dynamics, influences on culture and tradition, economic impacts and social problems and benefits that arise from the perfume plant enterprise. In an attempt to further develop the understanding of NTFP commercialisation and the impacts on indigenous people, this study seeks to answer the following question:

How has the commercialisation of *C. wildii* affected the communities of Puros and Orupembe?

The objectives of this research are as follows:

1. To describe the process of commercialisation of *C. wildii*
2. To determine the impacts of commercialisation of the species on the communities in terms of:
  - economic impact
  - cultural and traditional use, and
  - social problems and benefits including changes in relationships and power
3. To provide recommendations to the options that could be considered to mitigate negative impacts

In order to achieve these objectives this study employed participant observation, a focus group discussion, semi-structured interviews with harvesters, secondary data analysis and interviews with key informants.

The Sustainable Livelihoods Framework (SLA) is used in this study as an overarching guiding tool for analysis. This framework is illustrated in Figure 3. It was developed by the United Kingdom's Department for International Development (DFID) in the late 1990s and has been used to guide the implementation of a people-centred approach to development (Scoones 2009). The SLA has been used in a flexible way in order to lend structure to this study. It was used to organise results into the five forms of capital that constitute the centre of the framework as well as to determine which of these form of capital are affected by the NTFP enterprise. The framework has also been used as a way to examine both the processes that bind the livelihood strategy and the threats to these processes.

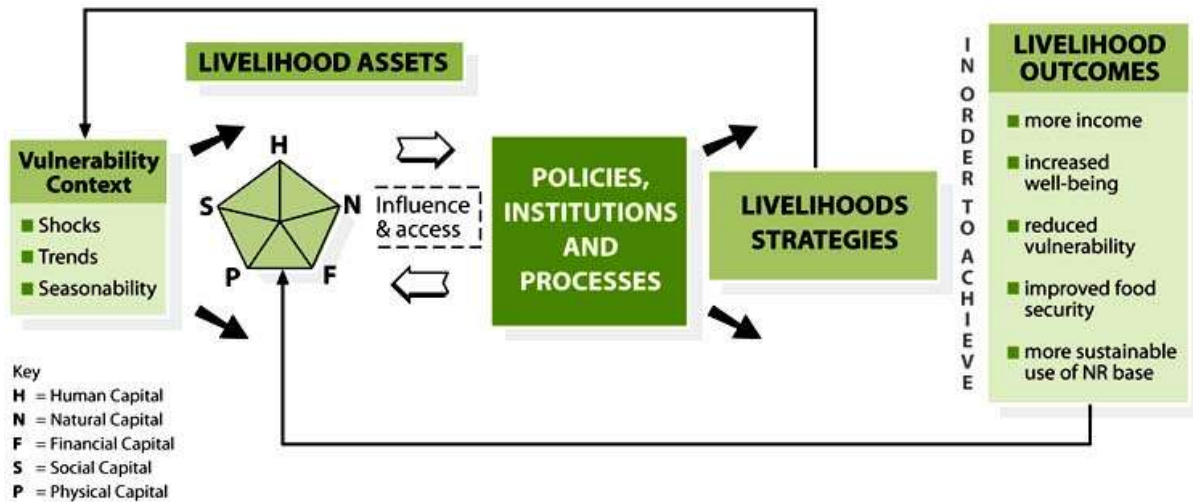


Figure 3: The sustainable livelihoods framework, from DFID 1999

## 1.5 Overview of the study

Following this chapter, Chapter 2 presents the research approach and methods used. The mixed methods research approach used, the data analysis and quantitative results are explained. Chapter 2 also discusses the reliability of research and the steps that were taken to ensure best scientific practice. Study limitations and ethical considerations conclude this chapter.

Chapter 3 navigates the reader through relevant literature. NTFPs are defined and a number of examples in the developing world are explored. A synthesis of the contribution that NTFPs can make to livelihoods is presented. Direct and indirect benefits of the commercialisation of NTFPs are listed. Common social and ecological problems associated with the NTFP industry are also discussed in the chapter. The concepts of access and benefit sharing and international trade policies for contextual purposes are described. This chapter concludes with a review of the theoretical framework, the sustainable livelihoods approach, and how that approach has been adapted to guide this research.

Chapter 4 provides contextual information and describes the study area. An overview of the environment and natural resources is given as well as a socio-economic profile and a short history of the Himba. The national CBNRM programme is explained including the link between the government's CBNRM programme and the perfume plant enterprise.

Chapter 5 presents the findings of the research and discusses these findings. Data are organised according to the themes identified from the interviews, cross-referenced with

conclusions drawn from participant observation. Figures from secondary sources are presented to explain the extent of the commercialisation process. Results are critically examined, weighing up their significance and relevance as well as their location in international and local literature. The project’s objectives, study findings and the literature review are drawn together. The results are explained in terms of the three study objectives and are related to the sustainable livelihoods framework.

Chapter 6 explores the aim and objectives of the study in relation to the findings and synthesises the results and discussion. General recommendations to NGOs and governments supporting similar enterprises are given in this chapter. **Error! Reference source not found.** shows how the write up of this research has been organised. This is followed by a chapter by chapter description of the study.

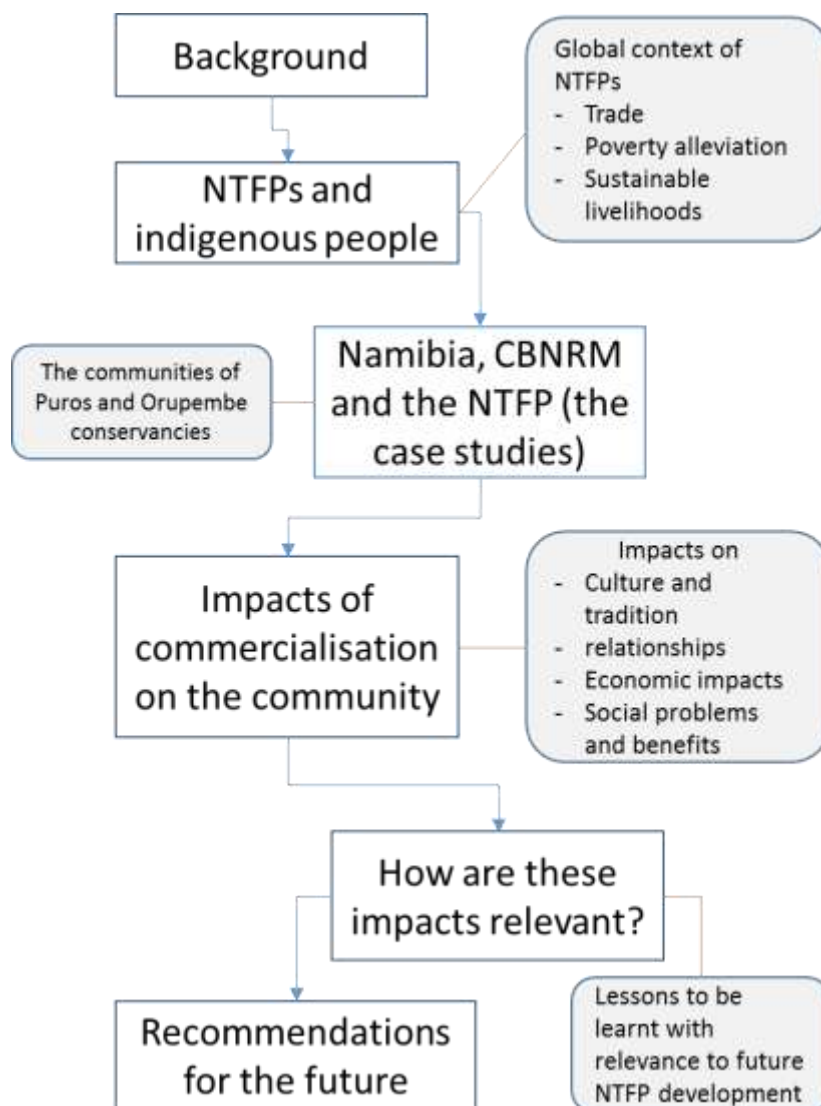


Figure 4: A schematic diagram of the organisation of this study

## Chapter 2: Methodology

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### 2.1 Sustainable livelihoods approach

The term ‘livelihoods’ is defined by Scoones (2009, p. 172) as, “a means of gaining a living” or a “combination of resources used and activities under taken in order to live” Chambers and Conway (1992) (adapted by Carney 1998 p4) define a ‘sustainable livelihood’ as follows;

“A livelihood comprises of the capabilities, assets and activities required for a means of living: a livelihood is sustainable when it can cope with and recover from stresses and shocks and maintain or enhance its capabilities and assets both now and in the future, while not undermining the natural resource base”.

The Department of International Development (DFID) in the UK developed what is called the Sustainable Livelihoods Approach in an attempt to improve the lives of the rural poor through understanding and implementing all the factors that contribute to a sustainable livelihood (Carney 1998). The sustainable livelihoods framework, also developed by DFID, can be used as a tool to organise and analyse ideas when trying to understand all aspects of a livelihood (Hinshelwood 2003). The sustainable livelihoods approach is a way of thinking about objectives, scope and priorities for development. This assists in organising information regarding household’s access to various assets, social and material, which are employed to achieve livelihood outcomes as well as the factors that influence the relationships between these assets (Hinshelwood 2003; Suich 2009). The framework is used to define the scope and the basis for the analysis of livelihood strategies (Carney 1998). The livelihood framework is also used to assess any constraints that prevent the household from achieving this (Hinshelwood 2003; Suich 2009). The Sustainable Livelihoods Framework can thus be used in both planning a new development and in analysing an existing livelihood strategy.

At the centre of the Sustainable Livelihoods Framework is the assets pentagon. This is an analysis of the five different types of assets that individuals draw on in order to build their livelihoods (Carney 1998). The five assets are; natural capital, social capital, human capital, physical capital and financial capital. These assets encompass all household and communal assets, from private ownership of goods to customary use rights for communal areas (Scoones 1998; Carney 1998).

Scoones (1998) describes five key elements of a sustainable livelihood, focusing on the actual livelihood as well as its resilience:

1. The creation of work days, meaning that gainful employment is created. Employment must include a wage, an element of production and recognition, or a sense of having done something meaningful.
2. The reduction of poverty.
3. Well-being and capabilities – this element relates to the overall well-being of people and may include factors such as self-esteem, equality, security, happiness and also material concerns.
4. Livelihood adaptation, vulnerability and resilience – this refers to the ability of a livelihood to cope with and to recover from shocks and stresses and is key in the identification of a sustainable livelihood.
5. Natural resource base sustainability – as rural livelihoods are often reliant on a natural resource, this resource must not be depleted.

Institutions and organisations bind the processes of achieving sustainable livelihoods. The Sustainable Livelihoods Framework emphasises understanding and analysing institutions affecting livelihoods as this allows for the identification of gateways and opportunities or barriers and restrictions to sustainable livelihoods. Analysing these institutions sheds light on the social processes which underlie livelihood sustainability and allows for the recognition of the complexity of a system, promoting innovation in planned interventions.

The framework has been critiqued for its simplicity and has failings when implemented in a rigid way (Scoones 2009). As with all models in the social sciences, is a simplification of reality and each livelihood approach can only be fully understood if participatory and qualitative analysis is also employed. The framework is thus intended to provide a way of thinking about livelihoods but should not be rigid in its use (Scoones 2009). However, the framework is acknowledged for recognising that livelihoods are a complex web of activities and interactions and for having challenged the fundamentally single-sector approaches to solving complex rural development problems (Hinshelwood 2003). The sustainable livelihoods framework is used here as a tool to guide analysis of the NTFP enterprises as a livelihood tool and to assist in weighing up the benefits and negative impacts of commercialising NTFPs in rural areas.

## 2.2 Research approach and rationale

As mentioned earlier, this study aims to reveal the social impacts of the commercialisation of perfume plants on two communities in the Kunene region. Research is by its nature also explanatory, uncovering the causes of trends identified (Neuman 1997). Rooted in interpretive social science, this study seeks to find meaningful details of interactions through the observation of people in their social context (Neuman 1997). A *mixed method* approach was used, but with an emphasis on qualitative methods as this was felt to be more suited to the complex and descriptive nature of the study (Creswell *et al.*, 2003). Employing both qualitative and quantitative methods to describe and explore the two case studies allowed for the incorporation of different views and perspectives into the study and enabled data to be triangulated and so reducing the possibility of misrepresentation.

At the time of this research I was an employee at IRDNC and so all interviews and participatory observation were done in consultation with that NGO. The study also drew on work done by others at IRDNC, especially that of Karen Nott. In addition to primary data collection and literature review material, IRDNC resources were used to compile this study (reports, minutes from meetings and data). This research also drew on my experience as a facilitator for IRDNC in the study areas between February 2010 and April 2013.

Two case studies were selected for this research. Of the five conservancies participating in the NTFP enterprise, the selected study sites (Orupembe and Puros) have been involved for the longest time and in the greatest capacity. These two areas were also chosen for some geographical and cultural differences which lend themselves to interesting comparisons such as that between a slightly more modernised permanent lifestyle in Puros to the very traditional semi-nomadic lifestyle in Orupembe.

The ‘case study’ approach tends to suit exploratory data (Neuman 1991) as it allows for the collection of data within a framework by examining a group and its setting (Salole 2003). A case study research approach concentrates on understanding the dynamics present within single settings (Eisenhardt 1989). Case studies can be used to accomplish various aims and here they were used to provide a description as well as to generate theory. Case studies can involve either multiple or single cases (Baxter and Jack 2008). A single case study approach is often criticised for its inability to provide generalisations (Baxter and Jack 2008). Two case studies, one in each conservancy, were thus explored in this study. While this does not mean that generalisations could be made, it did provide for more representative data. Caution was

however exercised in generalising and in making assumptions. Moreover, because qualitative research relies on interviews with selected individuals, it is problematic to equate one worldview or opinion with those of others. However, for the purposes of this research it was assumed that it was to some extent reasonable and fair to draw comparisons, seeing that participants were of a common culture, of similar socio-economic standing and of similar circumstance.

In addition to primary data, secondary sources were used, comprising information extracted from unpublished technical reports, a set of interviews done in the area for a separate study, harvester records compiled by the conservancies and meeting minutes. Secondary sources informed a range of contextual topics such as the changing perceptions of the commercialisation of NTFPs and the state of CBNRM in Namibia. Reports and articles written on the commercialisation of the perfume plants in the conservancies in Namibia were also used and consisted mainly of technical reports compiled by IRDNC staff.

## 2.3 Description of methods used

### 2.3.1 Participant observation

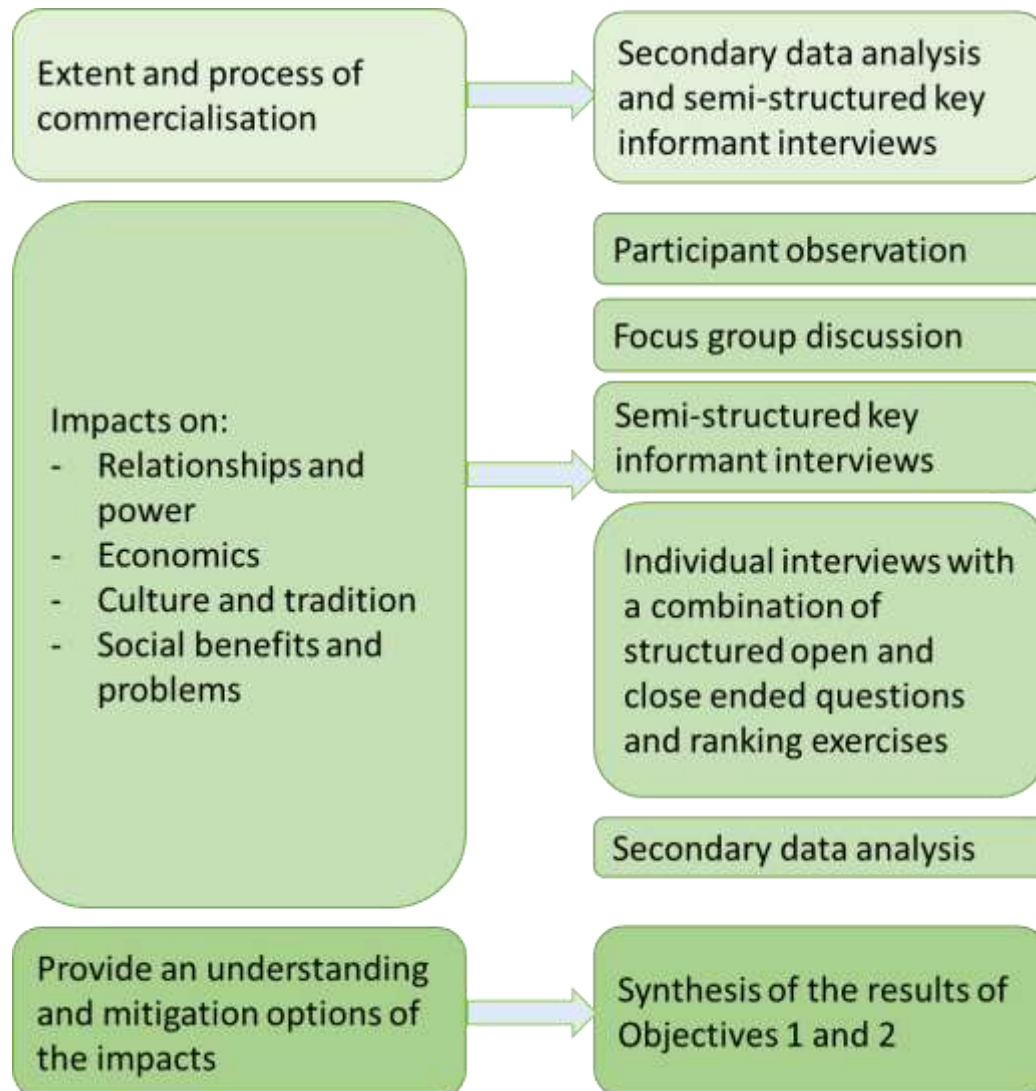
Participant observation and semi-structured conversations while in the area influenced much of this research. Participant observation is described by Martin (1995) as a technique that is invariably used when entering any community that is not one's own. It involves the observing and recording of experiences and interactions in a social setting. Observation and personal experience are integral to the overall understanding of the context and the communities in the area being studied (Martin 1995). Participant observation was thus used to develop a background context for this study. It was done by attending community meetings, harvester events and by engaging and working with various members of the community. Key participants for interviews were identified in this way and relevant questions were formulated with knowledge gained from earlier participant observation. The data collected through participant observation was in the form of field notes, technical reports for IRDNC and meeting minutes from workshops and community meetings.

### 2.3.2 Semi-structured interviews

Semi-structured interviews were held with 29 community members, 15 from Puros and 14 from Orupembe. Questions were developed based on previous interactions in the community, from participant observation and from relevant literature. A pilot study was done in July 2012 to test the initial interview questions and to determine if responses would produce the desired



data. For the pilot study, four interviews were held in Orupembe Conservancy. Interview questions for the main set of interviews were adjusted based on the results from the pilot study.



*Figure 5: An overview of methods used to achieve the objectives of this study*

The number of participants was selected based on what could reasonably be done in the time allowed for fieldwork but also with the aim of interviewing a large enough sample for results to be meaningful. In 2008 to 2009, a total of 80 people in Puros and 62 people in Orupembe harvested and sold plant material respectively (Nott 2011). Of the participants interviewed, fifteen from Puros were harvesters and twelve from Orupembe, representing about 20% of harvesters in each area. Approximately 400 people live in Orupembe, and some 260 people in Puros. This means that in Orupembe and Puros roughly 4% and 6% respectively of the total population were interviewed.

Interviews lasted between half an hour and an hour and were tape recorded after receiving verbal consent following a description of the project and its objectives. Interviews were later translated and transcribed by a person fluent in Otjihimba and able to write in English. A translator was used during interviews to interpret all questions and answers. Notes were made during the interviews and were later compared to the transcriptions. Two translators were used, and while this may have introduced bias, it was necessary for logistical reasons. Both translators were from the area and spoke Otjihimba and English fluently. The translators chosen were women to ensure that female participants would be comfortable enough to speak openly, bearing in mind that their culture is recognised as patriarchal.

Live samples of *C. wildii* were brought along to all interviews to act as aids during the interview process (Martin 1995). Pictures were used in a ranking exercise on harvester spending to overcome the language barrier and the low level of literacy (Figure 6). Questions were a mix of structured and open-ended questions, yielding both qualitative and quantitative results. For a transcript of the questions asked in interviews see Appendix 1.



*Figure 6: Picture cards used in the ranking exercise to overcome the language barrier and low literacy.*

### Participant selection

‘Purposeful sampling’ was used to select participants for the semi-structured individual interviews. This is a strategy where participants are selected deliberately for the information that they can provide (Maxwell 2009). This strategy was used to achieve a representation of those individuals who were invested in some way in the NTFP enterprise. Maxwell (2009) affirms the validity of this approach by stating that a small sample of participants that are systematically selected can provide more confidence in conclusions as they are more representative of the larger community than a sample of similar size that uses random selection. Participants were selected based on their experience as harvesters, or as community elders or leaders, as well as for their particular perspective as young people or new harvesters. A mix of men and women was chosen in order to record views from both genders. Availability and a willingness to participate affected the selection of participants. Availability was especially significant as many potential interviewees were out grazing livestock in unknown or difficult to reach areas. Consequently, the list of participants reflects the members of the community who were available during the fieldwork period, who were willing to participate and who had various degrees of experience and exposure to the NTFP enterprise.

Table 1: List of participants interviewed (January 2013)

<b>Puros</b>				
<b>Respondant</b>	<b>M/F</b>	<b>Age</b>	<b>Harvester</b>	<b>Role</b>
1A	F	35	yes	member
2A	M	41	yes	member
3A	F	65+	yes	member
4A	M	60+	yes	member
5A	F	about 56	yes	member
6A	M	42	yes	member
7A	F	about 59	yes	member
8A	F	60	yes	member
9A	M	39	yes	member
10A	F	65+	yes	member
11A	F	38	yes	member & bush lodge staff
12A	F	43	yes	member, Buying Point Manager & committee
13A	F	43	yes	member & traditional village employee
14A	F	40+	yes	member & traditional village employee
15A	F	36	yes	member
<b>Orupembe</b>				
<b>Name</b>	<b>M/F</b>	<b>Age</b>	<b>Harvester</b>	<b>Role</b>
1B	F	65+	yes	member
2B	M	65+	no	member
3B	F	21	yes	member
4B	F	40 - 50	yes	member
5B	F	mid-age	yes	member
6B	F	young	no	member
7B	M	18	yes	member
8B	F	60+	yes	member
9B	F	30+	yes	member
10B	F	18	yes	member
11B	M	30+	yes	member
12B	F	30+	yes	member
13B	F	35+	yes	member
14B	M	29	yes	member

Secondary interview data

A set of seven interviews which had been conducted by R. Wynberg in Puros and in Orupembe in July 2011 as part of another study was also drawn upon as secondary data. Recordings of these interviews were transcribed and used along with the primary interview data collected during my study. Wynberg's interviews asked similar questions to the 28 semi-structured questions that were conducted and could therefore add to primary data. This set of interviews is considered as data from a secondary source and its use is indicated specifically

throughout the study. However, when associated with the primary data, results were from a total of 35 participants rather than a total of 29 participants.

*Table 2: List of participants interviewed by R. Wynberg in July 2011 (unpubl. data)*

<b>Respondant</b>	<b>Conservancy</b>	<b>M/F</b>	<b>Harvester</b>	<b>Role</b>
1C	Puros	F	yes	member
2C	Puros	M	yes	member
3C	Orupembe	F	yes	member and tree committee
4C	Puros	F	yes	member
5C	Orupembe	F	yes	member
6C	Orupembe	F	yes	member
7C	Puros	F	yes	member

#### 4.3.3 Focus group

A focus group was held with participants in Puros village prior to the individual interviews. The purpose of the focus group was to inform all participants of the objectives of the research and what could be expected during the individual interviews. The focus group was also used to gain additional information for this study. The rationale behind using a focus group was to encourage interaction and discussion amongst the group (Kitzinger 1995). Group processes further allow for the exploration of views in ways that would not work in one-on-one interviews (Kitzinger 1995). A series of open ended questions were asked (see Appendix 2) and participants were encouraged to explore the issues of importance to them. A total of twelve harvesters took part in the focus group. The focus group did not yield the hoped for level of discussion and it was found that one or two people spoke on behalf of the group. This may be because the flow of talk was stopped by having to translate the discussion or because the group allowed the elders or the elite figures in the group to speak on their behalf as is expected in Himba culture. For logistical reasons the focus group was not repeated in Orupembe.

### 2.3.3 Key informant interviews

Interviews with key informants were done in person and were tape recorded. Participants were selected for their experience, knowledge and involvement with the two case studies or with similar enterprises. In order to ascertain the impact of the commercialisation process on the conservancy and on the community (Objective 1), key informant interviews were held with people from NGOs and the conservancy management committee. To help determine the extent of the commercialisation and the processing applied to the harvested resource, interviews were also held with a representative from the Centre for Research Information Action in Africa (CRIAA) and from IRDNC, both of which are NGOs active in natural resource management in Namibia.



*Figure 7: Participants from Orupembe*

### 2.3.4 Secondary data

A variety of available sources were used to fill information gaps and to provide context for this study. Secondary data included published and unpublished reports by the IRDNC, government and other NGOs, meeting minutes and harvester records. The harvester records had been collected by buying-point managers in each conservancy and reflected the amount of material bought, the numbers of harvesters registered and the money paid to each

harvester. This data served to reinforce and triangulate the data collected by participatory observation, focus groups and interviews.

## 2.4 Data analysis

A thematic analysis, using coding and categorising, was used to examine the data captured in the interviews. Six stages of thematic content analysis were adapted from Burnard (1991), which combines elements of grounded theory approach (Glaser and Strauss, 1967) and aspects of content analysis (Prasad 2008). The aim was to portray the original material while selecting meaningful themes. The analysis involved the following steps:

1. Transcripts were read through and notes were made on the general themes within the transcripts.
2. Transcripts were read again and headings were assigned to describe all aspects of the content. This step recorded most of the interview data.
3. The lists of headings from step 2 were grouped together under broader themes to produce a final list of categories.
4. Each transcript was worked through and 'coded' according to the final list of categories.
5. All items that were coded from each transcript were grouped together.
6. Results and conclusions were drafted with reference to the original transcripts to ensure that comments had not been taken out of context.

Observations were noted by the researcher at the time of the interviews and these were reflected on during analysis. Where possible, quantitative data was analysed to verify the categories and to highlight the significance that themes were given in the interviews. Where a statement was repeated in a similar way by a number of participants a percentage was calculated to indicate this.

For two of the questions asked in the interviews, a simple analytical tool was used called preference ranking. Participants were asked to indicate their personal preference by arranging items from least important to most important (Martin 1995). The items were given a score and the total scores added together provided an overall rank. The first question dealt with expenditure of income from harvesting. The second question explored participants' perceptions of which 'group' within the community held the most power about decision making regarding the enterprise.

## 2.5 Strengths and weaknesses

A major criticism of qualitative research is that it is at risk of researcher bias. Other criticisms are that it is case specific and cannot be generalised to an area or to a group and also that it cannot be reproduced as another researcher may come to very different conclusions (Mays and Pope 1995). In order to ensure research rigour a systematic and self-conscious research design was used (Mays and Pope 1995). Care was taken in selecting participants for the research sample, in order to be as representative as possible. Interviews were recorded and meticulous note taking was used to limit misrepresentation. Secondary data and quantitative data were used where possible to triangulate findings. When extracting quantitative data care was taken to avoid the 'need to quantify' effect which may impose arbitrary categories on complex phenomena (May and Pope 1995).

A concern over researcher integrity or researcher bias would be valid seeing that the researcher inevitably and constantly chooses one source above another or one quote instead of another. The presence of a researcher may also affect how participants respond to questions. Answers provided to the researcher may be affected by factors such as body language or the researcher's response. Answers may also conform to what the participant thinks the researcher wants to hear and not what the participant really thinks. It is also possible that the researcher is unable to grasp the worldview of the participants and is thus unable to provide an accurate analysis. Bias was minimised through fact checking and seeking internal consistency and by confirming evidence. It is however impossible to eliminate the effect of the researcher entirely (Neuman 1991) and the possibility of subjective interpretation needs to be reflected on in any analysis. Complex and changing relationships with people in the study affect opportunities for observation, the quality of data collected and the ability to test conclusions. Reflexivity is the unavoidable mutual influence of the research participants and the researcher (Maxwell 2009). This is especially relevant as the researcher worked in the area for two years before commencing with this research and was known to the participants. This may have presented bias but also allowed for a more in-depth knowledge of the area and the people and in some cases meant respondents were more comfortable with the researcher and more willing to speak openly.

Contradictions in spoken text are problematic especially when considering issues of translated interview data. It is important to reflect on the potential impact of translation seeing that any phrase in one language carries with it a set of assumptions, feelings and



values that cannot be directly translated into another language without loss or distortion of meanings. Participants were primarily from an Otjihimba speaking community and the language barrier may indeed have caused misrepresentation. This study addressed the language barrier by using multiple translators, by cross referencing the translations with recording, and by transcribing interviews word for word by a third party. Another limitation may have been bias or emotive answers given during semi-structured interviews. In order to limit this bias a range of community members were interviewed.

## 2.6 Ethical considerations

All research was done through IRDNC, a local NGO that has had a presence in the area for over 20 years. The guidance of IRDNC senior staff was followed on how to conduct this research in an appropriate way. Permission to conduct this research was obtained verbally from the traditional authority and the management committee of both conservancies were consulted on all planned activities. All individual and group interviews were done with the free and prior informed consent from members and were announced and explained at conservancy meetings. An existing research permit, which was acquired as an employee of IRDNC, covered all plant-related research in the area. The permit was issued by the Ministry of Environment and Tourism (MET) and was valid for the duration of the study.

Information of a sensitive nature was not recorded and was treated with discretion and the anonymity of all participants was maintained throughout. An experienced translator was present during all interactions with the communities, including meetings, focus group surveys and semi-structured interviews. The translator acted as a guide in respecting the local customs during research. The familiarity of the researcher with the participants helped to facilitate the research process. Once the study has been completed, research findings will be shared with the community members and with the conservancy committees. This will be done through IRDNC. In order to ensure ethical and moral conduct in this study the Code for Research Involving Human Subjects, as developed by the University of Cape Town, was followed.

## Chapter 3: Literature review

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### 3.1 Overview of the literature

This chapter presents a review of the relevant literature informing discussions of both the theoretical underpinnings of NTFP trade, and of the concept of NTFP commercialisation, particularly in relation to the objectives of this study. Firstly, the notion of NTFPs and the various ways in which they are perceived and defined, is explained and discussed, based on the literature. Following this, the more positive views of NTFP commercialisation as presented in the literature are analysed. In this context, both the economic benefits and the indirect non-monetary benefits are explored. Extensive criticisms of NTFP development are found in the literature and these are also discussed, specifically in terms of the ecological impacts, economic implications and social problems associated with commercialising NTFPs. Since governmental regulation plays a significant role in the success or failure of NTFP enterprises, this is briefly discussed, together with the influence of international markets on NTFPs, and access by NTFP traders to such markets. Finally, in the context of the socio-economic and environmental effects of the commercialisation of NTFPs, the Sustainable Livelihoods Framework is explained and the ways in which this framework has been applied in this study are outlined.

### 3.2 Non-timber forest products defined

‘Non-timber forest product’ or NTFP is an ambiguous term that can be used to describe a variety of forest products (FAO [Food and Agricultural Organisation] 1999; Delang 2005; Stockdale 2005; Shackleton *et al.* 2011a). There is no universally agreed-upon, inclusive definition of NTFPs, and even the term ‘NTFP’ is used interchangeably with ‘non-wood forest products’ or ‘minor forest products’ (Paumgarten 2005). A common definition for NTFPs, first given by De Beer and McDermott (1989), includes all biological materials, except for timber, that are extracted from forests for use by humans (Paumgarten 2005; Stockdale 2005; Pyakural & Baniya 2011; Shackleton *et al.* 2011a). However an inclusive and comprehensive definition of NTFPs remains problematic, as Belcher (2003) aptly states: NTFPs are ‘defined for what they are not.’ The definition offered by Wickens (1991) highlights this view: he sees NTFPs as including any biological material derived from forests *except for* industrial roundwood, sawn timber, wood chips, pulp, and wood-based panels. On

the basis of Wickens' definition, NTFPs would include a wide range of goods, such as bush meat, honey, resin, spices, fuel, medicine, fibres, biochemicals, and fodder for livestock. Animals and animal-derived products, such as fur and feathers, may also be included (Wickens 1991; FAO 1999; Delang 2005; Shackleton *et al.* 2011a).

Another area of contention in terms of an inclusive definition is how the term 'forest' is used in this field of study, as not all NTFPs originate from forests (Shackleton *et al.* 2011a). Forests are often interpreted very loosely to include a number of different ecosystems, such as the southern African veld and deserts, or tundra in the northern hemisphere (Laird *et al.* 2010a). The focus of NTFPs has thus shifted from their origin to the conditions that surround their growth; the implications of this are that NTFPs can be considered as any wild plants (or wildlife) that occur anywhere, or as uncultivated flora and undomesticated fauna (Shackleton *et al.* 2011a). Thus, taking the common elements of these various definitions, NTFPs may be wild or uncultivated, but they can also grow within village boundaries as the proximity to a homestead or town does not necessarily mean that a plant is domesticated (Shackleton *et al.* 2011a; Laird *et al.* 2010a).

It is clear from the literature that what constitutes a NTFP is most often determined by the objectives of specific research and the stakeholders involved (Belcher 2003; Gakou 1994, Paumgarten 2005) and that the concept of NTFPs has evolved and mutated to a considerable extent over the past few decades (Stockdale 2005). For the purposes of this study an inclusive definition of NTFPs will be used: wild biological resources (fauna or flora) that are extracted by rural households from natural ecosystems, for domestic consumption, or to sell (Wickens 1991; Shackleton *et al.* 2007).

### 3.3 Evolving perspectives on NTFPs

In recent years, there has been a growing recognition of the role that NTFP extraction plays in the lives of rural people, specifically in developing countries (Mahapatra *et al.* 2005; Stockdale 2005; Sills *et al.* 2011; Shackleton *et al.* 2011). A realisation that NTFPs can make a considerable contribution to the well-being of local people, as well as to rural economies, has ignited interest in this so-called 'minor' industry (Mahapatra *et al.* 2005). An escalation in research, practice and policy development in the area of NTFPs has been evident in the last decade in a number of disciplines, including forestry, economics, anthropology, conservation and livelihood studies (Shackleton *et al.* 2011a).

There have been mixed reactions amongst government policy makers, scientists, agriculturalists, environmentalists, and researchers to the growing interest in NTFP development, with some believing that cultivation and trade in NTFPs presents a real opportunity to alleviate poverty and improve the well-being of the world's most vulnerable, while others have been more sceptical (Shackleton 2006; Heubach *et al.* 2011; Pyakurel and Baniya 2011; Sills *et al.* 2011;). The optimists, as Sills *et al.* (2011) explain, have described commercialising NTFPs as being vital to the alleviation of poverty, and have focussed on the 'win-win' scenario where the cultivation and commercialisation of NTFPs appear to constitute a largely underutilised resource that in fact has a negligible environmental impact. This body of literature relies on three implicit assumptions: firstly that increasing the value of NTFPs automatically creates an incentive for conservation, which is the underlying principle of CBNRM (Jones 1999); secondly that there is inherently a lower ecological impact from extracting NTFPs than from harvesting timber; and thirdly, that NTFPs are easily accessible to rural people, in particular the most vulnerable (Saxena 2003; Belcher *et al.* 2005; Stockdale 2005).

Those who have been more sceptical have expressed concerns over linking indigenous people to international markets, stating exploitation of these people and cultural losses as a concern. Access to markets is also often compromised by over-exploitation, domestication or substitution of extracted NTFPs (Sill *et al.* 2011). Questions over the actual outcomes of commercialisation of NTFPs have been raised and debated, including the potential for poverty alleviation and conservation (Arnold and Ruiz-Pérez 2001; Belcher *et al.* 2005; Gubbi and MacMillan 2008).

### 3.4 The contribution of NTFPs to rural livelihoods

Rural dwellers across the world have a long history of dependence on a wide variety of forest products (Cavendish 2003; Saxena 2003; Shackleton and Shackleton 2004; Shackleton *et al.* 2011b). Millions of households make use of NTFPs to fulfil a number of livelihood and daily life requirements, either for a direct cash income, or for consumptive use or cultural needs (Shackleton *et al.* 2011b). The various roles for forest products are all significant as they contribute to the well-being and to the livelihood security of poor rural family units (De Beer and McDermott 1989; Mahapatra *et al.* 2005; Sunderlin *et al.* 2005; Shackleton *et al.* 2011b).

Although NTFPs form an integral part of rural livelihoods, they are usually not the primary source of income for a family or community, but rather one source in addition to others

(Kaimowitz 2003; Sunderlin *et al.* 2005). Often one NTFP has multiple uses, such as that provided by the marula tree (*Sclerocarya birrea*) in Central and Southern Africa, where nearly all parts of the tree have more than one use (Shackleton *et al.* 2009; Shackleton *et al.* 2011b). Another example of this multiple-use contribution of NTFPs is the tamarind (*Tamarindus indica L.*) used in Benin (Fandohan 2010). Fandohan (2010) describes 26 different commercial and subsistence uses for the tree. Thus there are a number of ways in which people make use of NTFPs, consumptively and commercially, and some NTFPs offer many different uses. The benefits garnered from NTFPs to the rural poor in particular, are thus varied and there may be multiple benefits from one species.

#### 3.4.1 Economic aspects

Livelihood benefits provided by NTFPs are described by Shackleton and Shackleton (2004) as having a ‘safety net’ function, where these products are used by people in order to survive or cope during times of adversity. This might happen when a breadwinner is retrenched or dies, during natural disasters or disease leading to death of livestock or crop failure, or unanticipated increases in expenses (Shackleton and Shackleton 2004; Paumgarten 2005; Shackleton *et al.* 2005; Kar and Jacobsohn 2012). Another level of benefits provided by NTFPs is seen in terms of their daily use, termed the ‘daily net’. This function manifests mainly as a direct cost saving function, as households can harvest NTFPs to meet their daily needs for food, medicine, shelter or fuel rather than purchasing these (Shackleton and Shackleton 2004; Heubach *et al.* 2011). A third dimension is the commercialisation of NTFPs, which leads to a direct cash income for households. In this instance NTFPs can provide a secure or steady source of income for rural people (Shackleton *et al.* 2007; Heubach *et al.* 2011). Although this function provides a possible pathway out of poverty, it represents a disputed view (Cavendish 2003).

Historically there has been little accurate information about the actual economic contribution that NTFPs make, especially for those species that are only consumed locally and not marketed, but with a growing research agenda, this is changing (Cavendish 2003; Delang 2005; Stockdale 2005; Sill *et al.* 2011). Indeed, the direct income from NTFPs can be significant for rural people. For example, a study by Shackleton and Paumgarten (2009) in two villages in South Africa, showed that income from NTFPs can contribute as much as one half of total income, and on average contribute approximately one fifth of total income (Shackleton *et al.* 2011b). Shackleton and Shackleton (2006) found that NTFPs are most

significant for poor households, but are also utilised by relatively wealthier households. This is supported by Cavendish (2000). The processing and sale of NTFPs is a widely available option for generating income and offers a very low barrier for entry, meaning these options are accessible to the poor and vulnerable (Shackleton *et al.* 2008).

There are numerous examples from other parts of the world of the types of NTFPs that contribute to rural livelihoods. Pyakurel and Baniya (2011) describe how communities in the remote Himalayan region of Nepal are dependent on NTFPs for medicinal purposes, for clothing and for food. In the Laikipia region in Kenya the NTFP sector is a significant industry that provides income to thousands of Kenyans. Products sold include cosmetics, traditional herbal health aides, indigenous foods and household and garden products (Wren & Powys, 2007). In Ethiopia, gums and resins collected from *Acacia*, *Boswellia* and *Commiphora* species contribute significantly to rural livelihoods (Woldeamanuel 2011). In Australia, the development of what are termed ‘eco-enterprises’ are encouraged, especially in areas that are vulnerable to drought and degradation by livestock. These enterprises diversify the incomes of Aboriginal people living in the area and help to reduce their dependence on welfare (Cunningham *et al.* 2009).

### 3.4.2 Indirect benefits

Most studies evaluating NTFPs have focussed on their economic and ecological aspects (Shackleton *et al.* 2007; Campbell *et al.* 1997). There is, however, an increasing awareness and interest in the non-monetary benefits that NTFPs provide (Cocks *et al.* 2011; Kepe 2008; Sheil and Wunder 2002). This type of evaluation stems from researchers and policy-makers trying to assess the *overall* impacts or benefits of promoting NTFPs. Broad definitions of poverty as well as the sustainable livelihoods approach (see below) stress the need to understand the social dimensions of welfare as non-financial benefits are seen as significant in reducing the overall vulnerability of the rural poor (Shackleton *et al.* 2008). These include the social, psychological and physical benefits of actually harvesting NTFPs and having a source of income (Cunningham *et al.* 2008).

The harvesting and sale of NTFPs can assist some households to move out of poverty, but a massive contribution they make is to prevent the intensification of poverty for numerous households worldwide (Shackleton *et al.* 2011b). NTFPs offer a free resource that is locally accessible and typically requires a low level of skill (Belcher and Schreckenberg 2007).

NTFPs are thus a means to decrease the vulnerability of many of the most marginalised groups of people in the world (Wynberg and Laird 2007; Shackleton *et al.* 2011c). Harvesting of NTFPs offers indigenous people a means to continue their traditional way of life without needing to move to urban areas in order to seek employment. NTFPs present an opportunity to work from home and to continue with other, cultural, means of livelihood, such as pastoralism and crop planting (Shackleton *et al.* 2008). NTFPs can also play a vital role in the health and nutrition of rural people as natural, healthy foods are harvested from forests and consumed (Ahenkan & Boon 2011; Huebach *et al.* 2011).

Harvesting traditionally used NTFPs to sell can ensure that the transfer of the knowledge of traditional use is not lost to younger generations even if people discontinue the original use of the NTFP. The cash incentive from the sale of NTFPs means that the younger generations may show an interest in the harvesting and traditional use where they may otherwise have lost this knowledge (Cunningham *et al.* 2009; Shackleton *et al.* 2009).

Women are often key managers in NTFP resources as they tend to be the primary harvesters or users of plants for consumption, cosmetic use and medicinal purposes. The harvesting and sale of NTFPs can therefore enable women to become empowered in traditionally patriarchal cultures (Stockdale 2005; Shackleton *et al.* 2009). Shackleton *et al.* (2008) describe how in Bushbuckridge, South Africa, women who trade NTFPs were empowered as they were able to access their own independent source of income. This allowed them to invest it in the household, specifically in paying for their children's school fees. This, in turn, could help to reduce intergenerational poverty.

The harvesting or processing of NTFPs can strengthen the bonds or social networks between harvesters. In Namibia, women harvesters of the marula fruit spend long periods of time together processing the kernels. This provides the women with an opportunity to develop close bonds with others in the community. An increase in incomes for harvesters or value of NTFPs may however lead to self-interest and the erosion of traditional sharing systems (Shackleton *et al.* 2009).

A sense of community or pride may come from having a community-based enterprise that creates independence amongst harvesters. In Australia, the harvesting of NTFPs has allowed some Aboriginal communities to create income that is independent of the national welfare system and to continue living outside of cities or 'on country'. Cunningham *et al.* (2008) state that this can be a source of pride to the Aboriginal people.

Biodiversity conservation can also be promoted through the harvesting of NTFPs as once people have a steady income from the sale of NTFPs there is an incentive to preserve their source of income (Delang 2005; Pyakural & Baniya 2011). This relationship is not always straightforward and often exploitation of resources does occur (Gebrehiwot *et al.* 2003; Stockdale 2005). It is however true that the impact of harvesting NTFPs is generally much lower than that of other land uses such as agriculture or timber extraction and that if sustainable harvesting methods are in place there is potential for conservation (Stockdale 2005).

### 3.5 What about the negative impacts?

While some of the benefits of harvesting NTFPs for commercial and for personal use have been described, there are a number of concerns or negative impacts associated with the commercialisation of NTFPs. Some of these impacts that are described in the literature are discussed here. Adverse impacts may be of an ecological nature, or there may be negative social implications of commercialising NTFPs.

#### 3.5.1 Ecological impacts

When a commercial value is placed on a plant it is harvested in greater amounts and sometimes unsustainably (Stockdale 2005). While harvesting NTFPs is seen as less destructive than harvesting timber this does not mean that all NTFPs are always harvested sustainably. Indigenous communities have often been the successful managers of NTFPs, irrespective of government regulation, but when the commercial value of NTFPs rises, traditional and social controls over the resource are often lost and as a result negative ecological impacts may become evident (Stockdale 2005). In many cases assessing the sustainability or ecological impact of NTFP harvest is not done as much of the harvesting is undocumented and without monitoring (Shackleton *et al.* 2011c). A number of examples are given in literature where over exploitation of a plant resource has taken place as a result of commercialisation.

One such case is described by Woldeamanuel (2011) where large amounts of myrrh, from the *Commiphora myrrha* tree, are harvested at an unsustainable rate and exported from Ethiopia. The employment opportunities and income that *C. myrrha* and other NTFPs in Ethiopia generate are extensive, but poor management practices such as deforestation, over-grazing and unsustainable harvesting have meant a decline in the number of species of commercial value (Tadesse *et al.* 2007; Woldeamanuel 2011). Gebrehiwot *et al.* (2003) describe another



example of poor harvesting practices in Ethiopia where frankincense from *Boswellia papyrifera* is being severely depleted by the damaging of the tree during harvesting.

Commercialising NTFPs can easily undermine complex relationships between indigenous people and their environment (Shackleton *et al.* 2009; Laird *et al.* 2010). For example, in Fiji the spiritual value placed on the tree *Instia bijuga*, means it has been managed through strong customary laws and without state control. However, with an increase in demand for the crafts made from the tree, its traditional controls are being compromised and the species is vulnerable to over-harvesting (Areki and Cunningham 2010).

### 3.5.2 Negative Social impacts

While a large amount of work has been done on the economic or ecological aspects of NTFPs, the less quantifiable cultural and social implications have often been disregarded (Shackleton *et al.* 2011). The relationship between NTFPs and indigenous communities is usually more complex than just sustaining livelihoods or harvesting for economic gain. NTFPs can also be an important part of maintaining traditions, spiritual beliefs and cultural identities (Stockdale 2005). There is a growing interest in how biodiversity and people's relationship with NTFPs affects well-being and cultural dimensions of society (Cocks *et al.* 2011). Cocks *et al.* (2011) describe how people tend to retain strong ties to the traditional use of NTFPs, even after moving to the urban areas or discarding other traditions. While there are a number of benefits related to the development and the commercialisation of NTFPs there may also be a number of negative social implications. Due consideration to the non-financial impacts must be given to ensure that overall the commercialisation process is beneficial and not detrimental to the household (Shackleton *et al.* 2009). Some of the possible negative implications are discussed here.

The commercialisation of NTFPs often has indirect impacts on the cultural or social norms of communities partaking in harvesting. There is the potential to disrupt subsistence use which can then adversely affect instead of benefitting households (Shackleton *et al.* 2009). Once NTFPs are assigned a commercial value rural families may forgo domestic consumption for the cash from the NTFP sale. This can lead to a decline in health and nutrition that was not experienced before, however commercialisation can also have a positive impact on health as income from sales is used to buy food (Shackleton *et al.* 2009).

The use of NTFPs can lead to conflict with those who are still dependent on species for their own needs or control over products may be captured by local elites or even by outsiders

(Laird *et al.* 2010a). Another source of conflict is when a species has multiple uses or both a NTFP value and a timber value. This can be aggravated if there are a number of stakeholders involved. Interventions for this include spatial separation of management units or the protection of NTFP value from timber extraction if the economic and social value exceeds that of timber (Shackleton *et al.* 2009; Guariguata *et al.* 2011).

Another often overlooked implication is that inequalities within a community may in fact increase with the commercialisation of a NTFP product (Belcher and Schreckenberg 2007). This can happen when local elites who have better skills, more capital or better connections outcompete poorer households (Belcher and Schreckenberg 2007). Research done in China on the bamboo industry showed that as opportunities within the sector increased, better-off households began to benefit more than poorer households (Ruiz-Pérez *et al.* 2004). Kusters *et al.* (2006) show in their study of 55 traded NTFPs in Africa, Asia and Latin America, that in a quarter of the cases equity within the community was negatively affected. Many households were excluded from benefits of trading in NTFPs and some even lost access to plant resources for personal use.

Another example of where equity may be reduced within a community is when all households do not have direct access to resources. In cases such as this the privatisation of plant resources may occur (Belcher and Schreckenberg 2007). Wynberg *et al.* (2003a) describe how this is a risk in the marula industry in north central Namibia, where a quarter of the households do not have direct access to the fruits and rely on the benevolence of neighbours to share the resource. A documented example of where privatisation was increased and many lost access to plant resources is the case of the Babassu palm (*Attalea speciosa*) kernel industry in Brazil (May 1986; Belcher and Schreckenberg 2007).

Guasset *et al.* (2005) conducted research in Burkina Faso on the trade in shea nuts, *Vitellaria paradoxa*, showing that this type of inequity through privatisation of wild resources can be gender based too. As the shea nuts gain value men take control of the resource and women are forced to share revenue with men (Elias and Carney 2007). Palm oil in Nigeria also demonstrates how female-controlled crops can be taken over by men once the value is increased through commercialisation. At the beginning of the twentieth century men gained control of the profits from the palm oil as the value increased (Martin 1984). As with the palm oil case, women generally maintain the labour intensive processing roles, but men reap the associated profits (Martin 1984; Elias and Carney 2007). In the case of marula oil export,

men became involved once technology was introduced to process the oil (Wynberg *et al.* 2003b)

### 3.5.3 Are NTFPs poverty traps?

Due to cases of inequity and other associated threats in this industry, a key topic of debate in this field is whether NTFPs can meaningfully assist in the improvement of livelihoods, or if this type of product development in fact offers limited options and serves only as a last resort. In this case, some feel that it in fact contributes to the persistence of poverty rather than alleviating it (Shackleton *et al.* 2008). Belcher and Schreckenberg (2007) explain that once commercialisation occurs and NTFP value is increased, a sudden surge in harvesting may cause market prices to drop. This means that people may be forced to harvest more NTFPs in order to maintain a minimum income level. When this happens NTFPs are considered a 'poverty trap' where small-scale producers are in fact disadvantaged due to their dependence on NTFPs. Some have argued that NTFPs can also be a poverty-trap specifically because of accessibility and low capital requirements which allow people to survive on minimal income without much possibility for economic growth (Sunderlin *et al.* 2004). Another common view is that the average income from trade in NTFPs, at both an international and a local level, is minimal. Thus, many argue that NTFPs play little to no role in alleviating poverty (Shackleton *et al.* 2011b)

## 3.6 The trade in NTFPs: markets and regulation

Products derived from NTFPs are sold in a wide and diverse range of sectors including cosmetics, pharmaceuticals, botanical medicines and the food industry (Stockdale 2005; Belcher and Schreckenberg 2007; Ros-Tonen 2011). Market interest as well as national and international regulations on how NTFPs are traded are integral to the growth of the industry.

NTFPs are increasingly popular, especially in international markets, as consumers become more informed about the environmental and social impacts of products that they purchase. Consumers are also becoming more health conscious and are seeking out organic or natural certified products (Pyakurel & Baniya 2011; Belcher and Schreckenberg 2007). NTFPs may also be more effective or cheaper substitutes for existing products (Belcher and Schreckenberg 2007). The value of NTFPs is increasing as demand for natural and sustainable products in foods, teas, medicines and cosmetics increases (Pyakurel & Baniya 2011). The growth of NTFP trade is also driven at a local level as households are becoming

more integrated into the market and have higher economic aspirations. This growth is also being driven by poverty and vulnerability worldwide (Shackleton *et al.* 2011b).

A number of marketing approaches are used in the NTFP industry. Often products are advertised as being ‘exotic’ or novelty products (Belcher and Schreckenberg 2007). Products may be certified by internationally recognised certification boards, such as Fair Trade and EcoCert, in order to appeal to socially and environmentally conscious consumers. In most cases certification is too costly to employ, but other mechanisms of traceability are used in order to meet conditions of export to international markets (Cunningham 2011).

Good marketing, cultural branding and quality control contribute to the success of the sale of plant products (Cunningham *et al.* 2009). There are many challenges faced by producers who trade in NTFPs. The two major issues that affect NTFP trade are an inconsistency in supply and poor quality of products (Wren & Powys 2007; Cunningham *et al.* 2009). In Ethiopia the sale of resin from *Commiphora myrrha* is a challenge due to the remoteness and ruggedness of the areas where the myrrh occurs, this has also made it difficult to gain access and organise harvesting of the product (Tadesse *et al.* 2007). Other common challenges in trade of NTFPs include certification costs, supply reliability, difficulty in the development of producer associations and withstanding competition from artificial products or alternative products (Cunningham *et al.* 2008). If NTFPs are sold at an international level it is often necessary for harvesters to have some form of partnership with an NGO, a business, a university or a producer association in order to navigate markets (Belcher and Schreckenberg 2007). Unlike natural products that are sold in local markets, local communities generally do not have detailed knowledge of export markets, quality control measures or research and development requirements (Belcher and Schreckenberg 2007; Cunningham 2011).

Meeting the requirements of the country in which the product is sourced as well the country to which it is exported is challenging. A lack of recognition of the importance of NTFPs to livelihoods and inappropriate regulations has, in many cases, inhibited their successful trade (Shackleton *et al.* 2009). The regulation and governance of NTFPs varies greatly with diverse national policies and regional customary laws affecting trade. Due to the highly variable nature of NTFPs and the inconsistency of the contexts in which they are harvested their regulation is difficult (Cunningham *et al.* 2008; Laird *et al.* 2010). Numerous examples exist where sale of NTFPs has not been appropriately regulated, or has been over-regulated, leading to problems in trade and in securing benefits for rural people (Wynberg and Laird

2007; Laird *et al.* 2010). NTFPs bound for international markets face legal requirements that govern the trade in species between countries. Requirements can include taxes, licences, and tariffs, along with health and sanitation inspections and customs. The documentation that is required is often substantial, expensive to obtain and often too complicated for people who lack a formal education to understand. Thus without local government support these requirements may be unachievable for small scale companies (Pierce and Bürgener 2010).

In Bolivia, Brazil nuts are harvested and sold in order to support a large part of the population (Stoian 2005; Cronkleton & Pacheco 2010). However, national policies to support the management of the Brazil nut industry have not been prioritised. A lack of clear or secure property rights can greatly affect how a resource is managed and who receives benefits (Cronkleton & Pacheco 2010). Regulation of access rights is critical and in areas such as Bolivia, where this has not been addressed there have been issues of sustainability of trade and resource in NTFPs (Cronkleton & Pacheco 2010).

Policies may seek to regulate for a number of objectives such as meeting biodiversity goals, generating income for the state, improving livelihoods of rural people, protecting harvesters from exploitation and promoting sustainability (Lele 2010). Complexities in regulating the trade of NTFPs are well demonstrated by the case of the *Hoodia* species in Southern Africa. Regulating the very valuable species across three countries, South Africa, Namibia and Botswana, and considering the intellectual property and custodian rights of at least three ethnic groups, proved to be very challenging. This has meant that the trade in *Hoodia* has not become the viable source of income for communities as was first envisioned (Wynberg 2010).

A number of attempts to promote the sustainable use of biodiversity at an international level have been made. The Nagoya Protocol, finalised in 2010, is an agreement that supplements the Convention on Biological Diversity (CBD) and is a legal framework for the implementation of the CBD's principles of access and benefit sharing (Poudyal *et al.* 2012). The protocol intends to create transparency and legal certainty for providers and users of genetic resources. A major focus of the protocol is the equitable and fair sharing of benefits, monetary or non-monetary, from the sustainable use of plant and animal genetic resources. Ensuring benefits to local level users or custodians is intended to create incentives to conserve and sustainably utilise genetic resources. This in turn is intended to enhance the

contribution of biodiversity to the development of human well-being, which is one of the objectives of the CBD.

The Nagoya Protocol also covers traditional knowledge rights where indigenous communities may be holders of knowledge that pertains to a specific resource as well as being custodians of the resource (Srinivas 2012). Access and Benefit Sharing (ABS) regimes are used to ensure that prior informed consent (PIC) and the Convention on Biological Diversity (CBD) objectives are taken into account. Some countries have created laws for ABS regimes. The Bonn Guidelines of 2002 had elements that enacted the CBD objectives. The Nagoya Protocol has further reinforced the rights of indigenous communities and has established ways of protecting their rights over traditional knowledge (Srinivas 2012).

### 3.7 Conclusion

A review of the literature has shown that there are numerous benefits for indigenous and rural communities from the commercialisation of NTFPs. There are however, a number of possible negative implications that should also be considered. Despite studies being heterogeneous and context related, there are a number of common benefits and concerns highlighted across the developing world. The literature reviewed in this chapter thus draws on case studies where NTFPs have been successfully and unsuccessfully commercialised. Trade in NTFPs, at local and international level, can have numerous impacts on aspects of indigenous and rural people's lives. The literature shows that there is a need to better understand the monetary and non-monetary benefits and social impacts of NTFP commercialisation. This study aims to help contribute towards this knowledge gap.

This study focuses on the social implications of NTFP commercialisation. Social, economic and environmental impacts are explored in order to understand likely outcomes. National regulations and international agreements that affect trade and markets are also discussed. Literature focused on the sustainable livelihoods framework is also drawn on to analyse NTFP commercialisation.

## Chapter 4: The Namibian context

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### 4.1 Community based natural resource management in Namibia

#### 4.1.1 A brief history.

Community conservation was first introduced in Namibia, in the north western area of the country, in the early 1980s (Jones 1999; Suich 2009; NACSO 2010; Owen-Smith 2010; IRDNC 2011). The concept was pioneered by a small group of conservationists and community leaders, some of whom founded the NGO Integrated Rural Development and Nature Conservation (IRDNC) (Jones 1999; IRDNC 2011). The aim of pioneering this type of conservation in the region was to find joint solutions to the decline in wildlife that had resulted from illegal hunting by government officials, the South African Defence Force (SADF), refugees from Angola and the local population. Wildlife numbers had been further reduced by a severe drought in 1980 and 1981 which killed 85 – 90% of livestock (Owen-Smith 2010; IRDNC 2011). Poaching was exacerbated during these years as local people had lost their livelihoods and there was little control over wildlife exploitation in the area (Owen-Smith 2010; IRDNC 2011). Black rhino and desert-adapted elephant were being targeted for ivory and rhino horn respectively and fears over their possible extinction contributed to the drive towards community conservation (IRDNC 2011). The first steps included joint planning and decision-making with communities, shared responsibility and accountability, capacity building of community members and facilitation of direct economic benefits (IRDNC 2011). Community Game Guards were appointed and gradually wildlife populations began to recover (Owen-Smith 2010; IRDNC 2011). Traditional Authorities played a key role here in encouraging community members to uphold the principles of CBNRM (IRDNC 2011).

In the 1990s IRDNC, with the support of the World Wide Fund for Nature (WWF) assisted the newly democratically elected government of Namibia in drafting legislation for CBNRM. IRDNC's role was to facilitate consultation with local communities in order to make direct inputs into the new legislation (IRDNC 2011). In 1992 the Ministry of Environment and Tourism (MET) (then the Ministry of Wildlife, Conservation and Tourism) drafted the first policy that officially recognised local communities' rights over wildlife and benefits from tourism, *Promotion of Community Based Tourism* (MET 1995a; NACSO 2010). The *Wildlife Management and Utilisation and Tourism in Communal Areas Act* was passed in 1995, five

years after Namibia's independence (MET 1995b; Jones 1999; Suich 2009). *The Nature Conservation Amendment Act* was approved by Cabinet in 1996 and enabled communities to form institutions for the management of communal resources (GRN 1996; Jones 1999; NACSO 2010). The term 'conservancy' was given to the common property management structures (NACSO 2010). Conservancies are legal bodies that give members the right to the consumptive and non-consumptive use of wildlife and other resources (GRN 1996; Flintan 2001; Nott and Jacobsohn 2004; NACSO 2010). The communal area conservation legislation provides a framework to enable CBNRM but it is not rigid in its implementation. This allows communities to keep certain descent-based or traditional hierarchies of authority in place while conforming to government regulations (Jacobsohn and Owen-Smith 2003).

Initially, the conservancies derived the majority of their income from the utilisation of wildlife and from tourism agreements, but a need to diversify this income prompted investigations into NTFP development in 2004 (Nott 2009; IRDNC 2011; INP 2012). A more recent conservancy model has been adopted in Forestry Policy for Namibia, in the form of the Forest Act No. 12 of 2001 (Corbett and Jones 2000; GRN 2001). This legislation aims to reconcile rural development with the conservation of biodiversity through the sustainable utilisation of plant resources by local communities (GRN 2001; Ruppel and Ruppel-Schlichting 2011). It is recognised that plants are an important resource for rural communities as they provide valuable wood products and NTFPs as well as supporting a variety of wildlife that are utilised through hunting, photographic safaris and consumption. Plants also provide scenic locations that promote community based tourism (Corbett and Jones 2000). The policy allows for the establishment of 'community forests' where local people, who are most dependent on the resources, become the custodians and beneficiaries of a forest area (GRN 2001; Ruppel and Ruppel-Schlichting 2011). The Directorate of Forestry (DoF) which falls under the jurisdiction of the Ministry of Agriculture, Water and Forestry (MAWF) registers and regulates the community forests (Ruppel and Ruppel-Schlichting 2011). There is specific mention of how rural communities and specifically women should be encouraged to participate in forestry conservation activities so as to benefit from utilisation (Jones and Corbett 2000).

#### 4.1.2 Implementation of the CBNRM policy

The conservancies in Namibia are established by groups of people who choose to work together in order to fulfil the conditions of a conservancy as set by the government.



Requirements to become a conservancy include having a defined membership, having a boundary agreed on by all members and neighbours, electing a committee to represent those members, having a constitution in place to guide the functioning of the conservancy and drafting a benefit distribution plan (Jacobsohn 2011). In 1998 the first four conservancies were gazetted. Now there are over 60 registered Conservancies in Namibia. Communities that register as community forests have a similar set of regulations. In 2005, DoF introduced Community Forest Guidelines (GRN 2005). The aims of these guidelines are to establish a common standard for managing plant resources. Communities are expected to appoint a management committee, define a specific community forest boundary, and draft a constitution and a management plan. A benefit distribution plan should also be in place (Ruppel and Ruppel-Schlichting 2011). According to the Namibian Association of CBNRM Support Organisations (NACSO) (2010) conservancies and community forests have become the framework for a number of other activities such as sustainable rangeland management, sustainable crop farming as well as the sale of NTFPs.

The Forestry Bill does not prevent a community forestry committee from organising itself in a similar way to an existing conservancy and then integrating its functions into those of the conservancy committee (Jones and Corbett 2000). A number of conservancies in Namibia have opted to do this (including Puros and Orupembe) in order to have rights over both wildlife and plant resources. Most communities that have done this have kept one committee and hold only one annual general meeting (AGM) and one set of elections as this creates a less complicated and cumbersome way of management (Legal Assistance Centre. 2010, pers. comm., 18 June).

## 4.2 NTFP use and commercialisation in Namibia

Namibia is floristically complex and diverse with a variety of unusual taxa that have specifically adapted to the arid region (Maggs *et al.* 1998). Wild plants in Namibia have significant genetic diversity and a high prospect for development, especially in the fields of pharmaceuticals and agriculture (Maggs *et al.* 1998). Ethnic groups all over Namibia have an in-depth knowledge of the plants around them which they use for many purposes including medicinal, food, fuel, building materials and cosmetics (Sullivan 1998; Chiekyyoussef *et al.* 2011). Besides the numerous uses of locally gathered plant resources, a number of established NTFP enterprises exist in Namibia's communal land areas (NFP 2009). Trained government and NGO staff enable NTFP enterprise development, with the aim of poverty

alleviation, ensuring that intellectual property rights are protected, and enabling appropriate benefits to go to the communities who hold this knowledge. Species that are currently being traded in are shown in Table 3.

Table 3: A summary of some of NTFP enterprises in Namibia (adapted from INP Market Bulletin 2012).

Species	Common Names	Use	Regions it is harvested	Approx. income in 2011 in N\$	in US\$
<i>Harpagophytum procumbens</i> and <i>H. zeyheri</i>	Devil's Claw	Athritis	All regions excluding Omusati	21 - 25 million	3 - 3.5 million
<i>Hoodia gordonii</i>	Hoodia	Weight loss	Karas	104600	14629
<i>Sclerocarya birrea</i>	Marula	Cosmetic oil*	North-central	487418	68170
<i>Ximenia americana</i>	Sour plum	Cosmetic oil	North-central	28350	3965

\*Marula is also sold as a food oil, a juice and a number of other products in the informal market  
 \*\* USD is calculated using an exchange rate of 7.15 USD to 1 NAD, which was the average in 2011 according to oanda.com

#### 4.2.1 *Commiphora wildii*

Essential oils are used in food, fragrance, cosmetic, beverage and home care products. There are already a number of essential oils on the market, but there is also a growing interest in the underutilised aromatic plants. Perhaps the greatest difficulties in developing this market lie in quality control, competition from synthetic alternatives and security of supply. (MCA 2013)

The arid Kunene region is home to a number of desert-adapted endemic species. Since 2004 IRDNC has worked with five conservancies and community forests (Marienfluss, Okondjombo, Sanitatas, Puros and Orupembe) in developing the essential oil from *C. wildii* resin as a commercial product (Nott 2009; Nott 2011; INP 2012). In 2004 a project was started to determine the uses and population densities of wild resin producing species of the genus *Commiphora* (Curtis and Nott, 2005). Before the enterprise was initiated, the management committees, staff and members were consulted and traditional knowledge was documented through village meetings, participatory rapid assessment mapping, questionnaire surveys and member's meetings (IRDNC 2011). Initial surveys established that the preferred perfume species of the Himba women in north-western Namibia is *C. wildii*.

The five conservancies were selected as they had abundant *C. wildii* plants and also held traditional knowledge on its use as a perfume. Although the resource occurred in other conservancies, traditional knowledge was not held in them. By restricting the enterprise to the five conservancies selected, the IRDNC intended to explicitly acknowledge the value of traditional knowledge (IRDNC, pers. comm. 13 November 2013). Surveys were carried out in two of the five conservancies in Kunene Region in 2005 and extended to a further three

conservancies in 2006. In order to manage the finances of the enterprise a trust was formed to which the five conservancies belong. If a greater demand for products is reached which the five conservancies can no longer meet, the intention is that other community-based organisations can be sub-contracted by the trust to harvest NTFPs. IRDNC considered investigating *Commiphora* species as a potential source of income in the 1990s but waited until the five areas were registered as conservancies before actively investigating the species used and their potential for commercial use. This was to ensure that necessary institutional arrangements were in place for the sustainable management of the resource (IRDNC 2011). A full description of the process of commercialisation is given in Chapter 5.



*Figure 8: Commiphora wildii, the low growing tree is shown on the left and the resin is shown on the right*

*Commiphora wildii* is a shrub-like tree that grows up to 2.5m tall. It occurs on rocky, mountainous slopes that fringe the Namib Desert (Coates Palgrave 2002). It is characterised by a thick swollen stem, which branches near the ground (Curtis and Mannheimer 2005). Himba women use the resin of *C. wildii* to scent butterfat which becomes rancid when stored for long periods in high temperatures. They combine the red ochre with animal fat and then heat the mixture with the resin to scent it (Nott *et al.* 2007; IRDNC 2011). The Himba women rub the mixture onto their skins as part of a daily ritual (Malan & Owen-Smith 1974; Jacobsohn *et al.* 1990). Figure 8 shows *C. wildii*, known as *omumbiri* by the Himba. Harvesting the resin of *C. wildii* has a minimal ecological impact as the resin is naturally secreted by the plant. *Commiphora wildii* naturally exudes resin at the start of the growing season and no incisions on the plant are needed in order to harvest resin. This means that resin is harvested sustainably without damage to the plant population (IRDNC 2011).

### 4.3 The study area

The Kunene Region covers approximately 100000 km<sup>2</sup> in the north-western corner of Namibia, bordering the Atlantic Ocean to the west and Angola to north. Although the last thirty years have seen the development of tourist lodges, an improved road network, campsites and some village shops, it is still largely remote and isolated. The area is arid, with less than 100 mm of rainfall per year (Mendelsohn *et al.* 2002). The landscape is a combination of hills, plains, wooded riverbeds and valleys and is classified as semi-desert and sparse savannah (NACSO 2010). It has been described as “one of the most challenging places to live and work in southern Africa” (IRDNC 2011, pg. 22).

The Kunene is characterised by its diverse landscapes of desert plains, mountains, ephemeral rivers and canyons. A wide variety of wildlife occurs here, adapted to the arid-savannah and desert. Wildlife includes kudu, gemsbok, plains and mountain zebra, duiker, steenbok, springbok, ostrich, impala, giraffe, klipspringer, dik dik, warthog, elephant and black rhino. Lions, leopards, brown and spotted hyena and cheetah are the large predators in the area (NACSO 2010; IRDNC 2011). Land is held communally and is divided into a number of conservancies, concessions and communal areas. Local people depend largely on livestock farming for survival and a number of cattle, goats, donkeys and sheep are often seen grazing in amongst the wildlife (NACSO 2010).

#### 4.3.1 Orupembe Conservancy and Community Forest

Orupembe, shown in Figure 9, was officially registered as a conservancy in July 2003. It covers an area of 3565 km<sup>2</sup> and has about 400 residents (NACSO 2010). The area is sparsely populated with the number of people per km<sup>2</sup> at 0.01-1.0 (Mendelsohn *et al.* 2002). Residents are Otjihimba speaking and most are nomadic pastoralists (NACSO 2010; Nott 2011). The Onjuva plains fall within Orupembe and are a sacred site, forming an important feature within this conservancy (NACSO 2010).

The area was registered as a community forest in 2012. The registration was done to protect the rights of the Orupembe community over their plant products against outside exploitation. A management committee consisting of six men and three women is in charge of the day to day management and running of the conservancy. The conservancy has a number of enterprises, including joint venture tourism agreements with a lodge and a self-catering unit, a community run campsite, hunting of wildlife and the harvesting and sale of plant products (NACSO 2010).

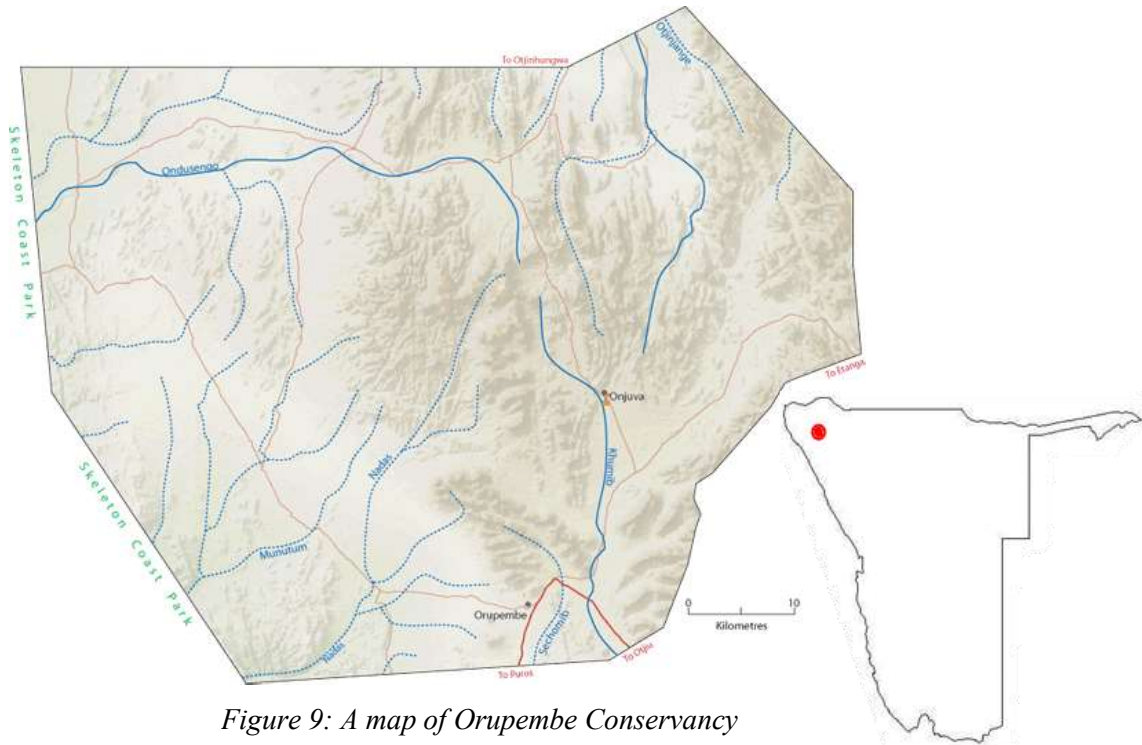


Figure 9: A map of Orupembe Conservancy and Community Forest; from NACSO, 2012

#### 4.3.2 Puros Conservancy and Community Forest

Puros Conservancy was registered in May 2000. The conservancy covers an area of 3562 km<sup>2</sup>, shown in Figure 10. Like Orupembe, Puros Conservancy is sparsely populated with only 260 people (Mendelsohn *et al.* 2002; NACSO 2010). The main spoken languages in the conservancy are Otjihimba and Ojherero (NACSO 2010). Puros Conservancy is semi-desert and sparse savannah and consists of a mix of hills, plains and wooded valleys. The ephemeral Khumib and Hoariseb rivers along with the dramatic desert scenery are characteristic features of Puros Conservancy’s landscape (NACSO 2010).

Puros Conservancy has a number of enterprises including joint venture tourism agreements with lodges, a community run campsite and lodge, a traditional village for tourists to visit, a craft shop, hunting of wildlife and the harvesting and sale of plant products. Puros Conservancy is managed by a committee consisting of four women and eight men (NACSO 2010). Like Orupembe, it was registered as a community forest in 2012 in order to have a legal right to control the access to and use of plant products within the area.

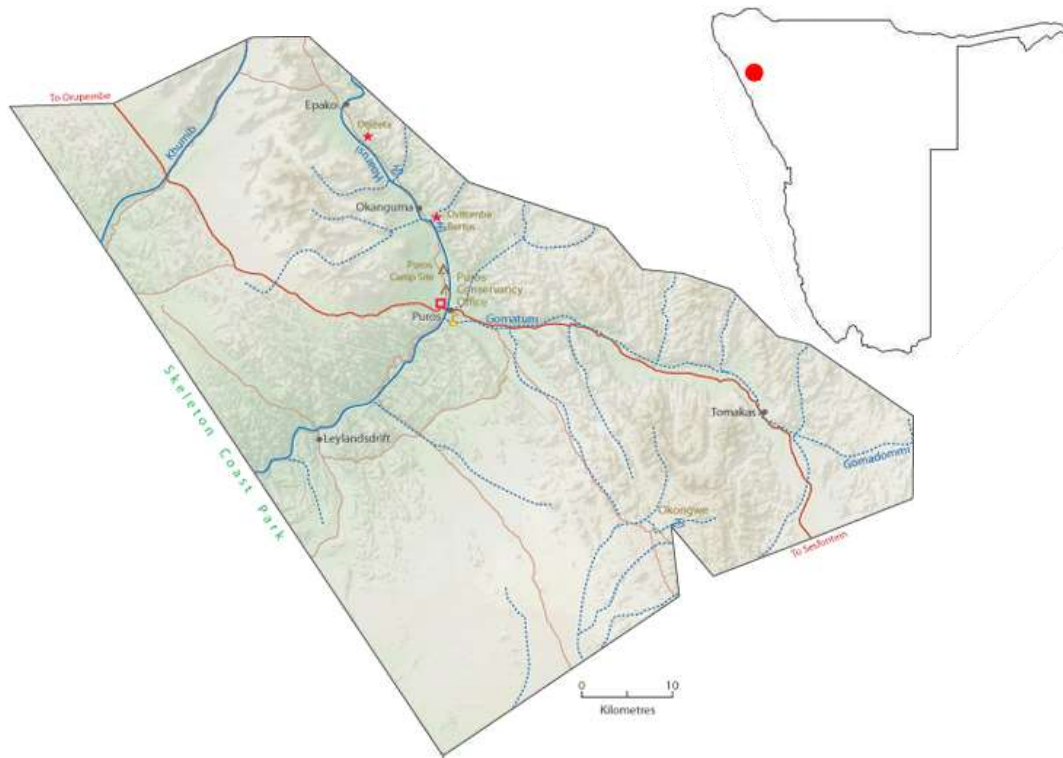


Figure 10: A map of Puros Conservancy and Community Forest; from NACSO, 2012

#### 4.4 A history of the Himba community

The earliest record of Himba (then Herero) people in the upper north-western reaches of the Kunene region (commonly known as Kaokoland) dates back to 1550, when Portuguese mariners encountered them after landing on the skeleton coast (Jacobsohn *et al.*, 1990). It has been suggested that following the Ovambo settlements in north-central Namibia, they prevented Herero pastoralists from grazing their cattle on the plains north of Etosha and instead forced the Herero westward into Kaokoland. Later, in about 1750, the majority of the Herero people migrated south east to areas more suited to livestock farming. A group of Hereros chose to remain in Kaokoland and later became known as Himba or ovaHimba (Jacobsohn *et al.*, 1990; Crandall 1996). Himba and Herero thus originate from the same ancestors, and despite very different traditional dress, much of their language, kin, economy and customs are shared (Jacobsohn *et al.* 1990).

The Herero community of central Namibia lost much of their land to European colonists in the nineteenth and early twentieth century, but they retained large tracts of communal land in the east and north-west of the country and many moved back to their relatives, the Himba, and still reside there today (Jacobsohn and Owen-Smith 2003). As is the case of many African pastoralists (Jacobsohn and Owen-Smith 2003), the Himba and Herero have lived on

these remaining tracts of land, in relative harmony with indigenous wildlife.

Himba people are socially organised according to a system of dual descent (Crandall 2002; Kavari 2005). This means that each person belongs to both a matrilineage, which controls inheritance and wealth, and a patrilineage, which controls spiritual relations and sacred property (Crandall 2002). The relative isolation from western influence until the late twentieth century has meant that these communities have retained much of their traditional way of life (Jacobsohn *et al.* 1990). Daily life is steeped in ritual, superstition and tradition and much care is taken in dress, where jewellery, hairstyles and choice of attire have symbolic meaning. Bollig (1998) describes the Himba as being glorified by and for the purposes of Namibia's tourism industry, explaining that they are often stereotyped as being isolated and detached from economic transformations and thus being the last true indigenous people of Africa (Bollig 1998; Bollig and Heinemann 2002).

The Himba economy is pastorally based, with most families owning herds of cattle, goats and sheep. Cattle herd sizes vary considerably and may number anything from 3 to 500 cattle. Small stock herds do not vary as greatly and according to Bollig (2006) poor households own approximately 100 head of small stock and rich households about 400 animals of which about two thirds are goats and one third are sheep. Livestock are moved into the higher mountain pastures during the dry season, in order to find grazing, and are kept in the valleys during the rainy season (Crandall 2002). Himba are referred to as semi-nomadic pastoralists as they generally return to the same areas annually, but also employ mobility as a buffering mechanism to guard against vulnerability to drought (Davis 2011). In some places where water is available, maize is cultivated but traditionally Himba live off the milk, blood and meat of their herds (Davis 2011).

A sophisticated cattle herding tradition has meant that there is relative prosperity within the group. However, with low and sporadic rainfall the main threat to the Himba's livelihood is drought (Owen-Smith 2010; Davis 2011). An indication of this vulnerability was the catastrophic drought in the area from 1980 to 1982, which destroyed more than 130 000 head of cattle, leaving many Himba and Herero dependent on relief hand-outs (Owen-Smith 2010). The Himba place a considerable intrinsic value on their cattle, demonstrated by a Himba saying, 'without cattle a man is nothing,' (Jacobsohn *et al.* 1990). The severe vulnerability to drought makes it essential for the Himba to develop other means of income or diversify their livelihoods. This need is explored further in this thesis through NTFP commercialisation.

## Chapter 5: Research findings and discussion

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This chapter presents the results and discussion of the first two study objectives. These objectives are 1) to determine the process of commercialisation, and 2) to ascertain the impacts of the commercialisation on the individual harvesters. The third objective, namely, to provide recommendations to the options that could be considered to mitigate negative impacts, will be covered in Chapter 6. Thus the first section of this chapter explores the NTFP commercialisation. The second section examines the impact of commercialisation on the household and on the individual, specifically the cultural impacts, economic impacts, changes in relationships and other social benefits and problems that have arisen.

### 5.1 The commercialisation process

#### 5.1.1 The enterprise

The first commercial harvest of *C. wildii* resin was in late 2007, when five different conservancies, Puros, Orupembe, Marienfluss, Sanitatas and Okondjombo were identified as having an abundance of the plant, as being conservancies that held the traditional knowledge on the uses of *C. wildii*, and for having enthusiastic, organised committees willing to support the enterprise. Table 4 shows the number of harvesters and the total income they received over the first two seasons of commercial harvest. Sales were sporadic between 2010 and 2013 due to production and sales issues. IRDNC has stated that the biggest challenge in this enterprise has been marketing the product effectively and also not having readily available stockpiles to sell. Up until 2011 resin was sold in an unprocessed form, but since the installation of a distillation machine in Opuwo, at the Opuwo Processing Facility (OPF), an essential oil has been extracted and sold. Figure 11 is a summary of the value chain and shows how plant material is harvested in the conservancies, sold at buying points, processed at the OPF and sold in a three-tiered approach - internationally, regionally and locally.



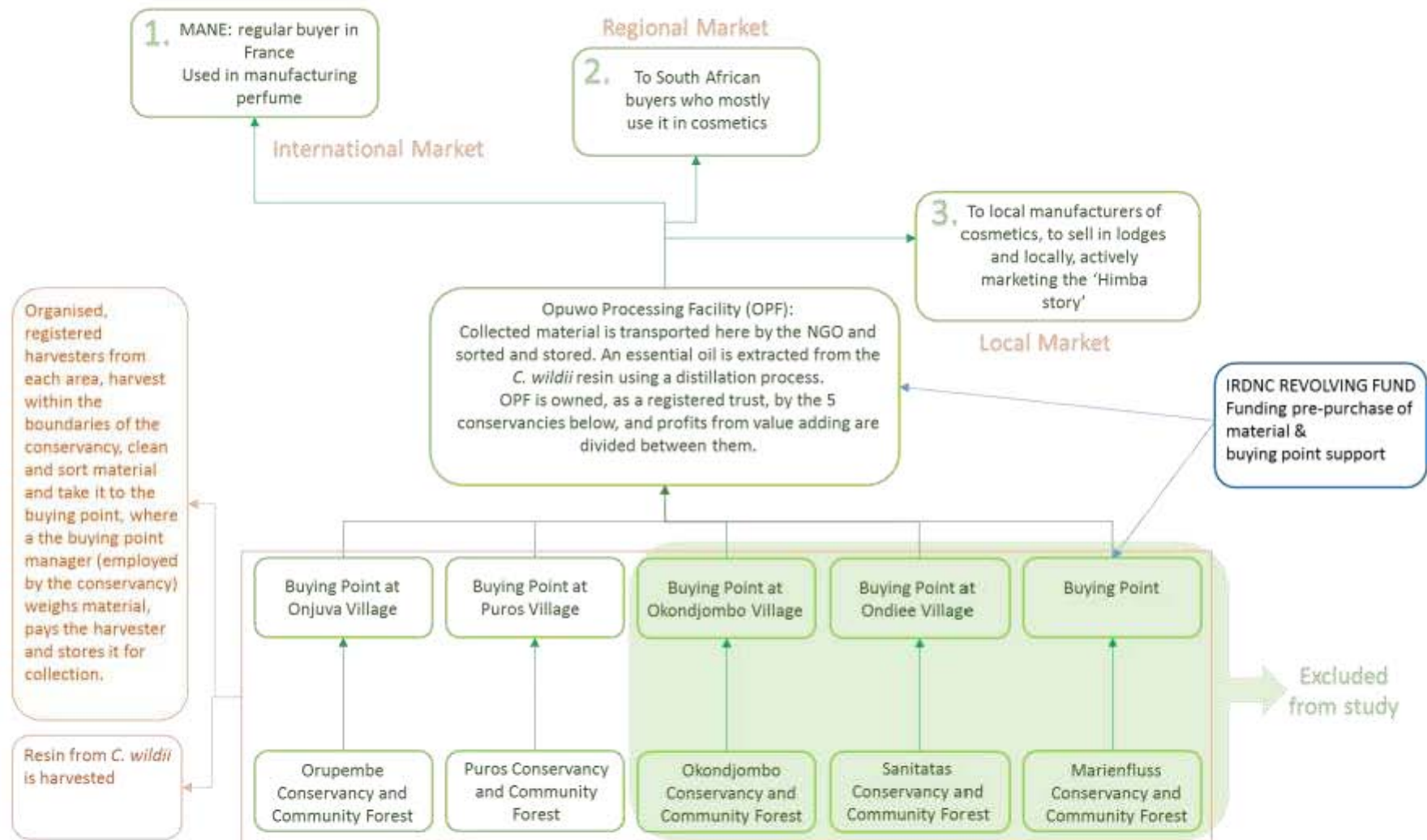


Figure 11: A value chain showing how the NTFP enterprise works

Table 4: *Commiphora wildii* harvesters and income into Kunene conservancies (from IRDNC 2011)

Conservancy	2007/2008 season				2008/2009 season			
	Number of harvesters	Resin sold (kg)	Total income (NAD)	Total income (USD)*	Number of harvesters	Resin sold (kg)	Total income (NAD)	Total income (USD)
Marienfluss	104	950	47500.00	7104.40	37	1540	77000.00	7871.92
Okondjombo	0	0	0.00	0.00	35	530	26480.00	2707.12
Orupembe	62	1694	84680.00	12665.27	64	1385	69270.00	7081.66
Puros	41	1781	89070.00	13321.87	80	1910	95520.00	9765.27
Sanitatas	28	585	29270.00	4377.80	59	720	36000.00	3680.38
<b>Total</b>	<b>235</b>	<b>5010</b>	<b>250520.00</b>	<b>37469.34</b>	<b>275</b>	<b>6085</b>	<b>304270.00</b>	<b>31106.36</b>

\* calculated using the average exchange rate over that period, on oanda.com, an online foreign currency service

Table 4 gives the total income to harvesters from *C. wildii* resin over the period 2007 – 2009, with sales mostly consistent from all five conservancies over that time. Conservancies were allocated an amount of money, depending on the number of harvesters and the interest shown by the committee as well as the amount of cash the NGO had available to purchase raw materials. The NGO in turn regulated the amount of resin bought from each conservancy in order to maximise benefit. This means that the amount each conservancy sells has been regulated and does not depend on the amount that people are able to harvest.

Table 5: *Benefit distribution between 2007 and 2009 from the proceeds of C. wildii resin*

Beneficiary	Benefit type	NAD/Kg	USD*/Kg
Harvester	Individual	50	6.67
Overheads	-	20	2.67
Community-based organisation	Collective	5	0.67
	<b>TOTAL</b>	<b>75</b>	<b>10.00</b>

\*using an average exchange rate value of 7.5, calculated on oanda.com for the period of Aug 2007 - Aug 2009

The harvesting season is from October to February, which coincides with the dry season in the Kunene. This is generally a time of hardship for the Himba when extra income from harvesting activities is especially valuable. Not all the income goes to the individual harvesters as a percentage is issued to the management committee and is used as a management fee to cover operational costs. Table 5 shows how the income, per kilogram of

plant material, is divided between the community-based organisation and the individual harvester. Major overheads include the salary of the buying point manager and drums for storage.

The steam distillation equipment was bought in 2009 with donor funding and, after solving some technical difficulties, processing of resin began in Opuwo in 2011. The still processes resin from *C. wildii*, distilling it into a useable essential oil. Two batches of raw material are distilled per day, producing an average of 1.6 kg's of oil. At the time of this research the OPF had 207 kg of *C. wildii* oil in stock. The OPF is owned by a registered trust created by the five conservancies – Marienfluss, Sanitatas, Okondjombo, Orupembe and Puros. Profits made through the value adding of the distillation process go back to these conservancies for the communal benefit of all members. In 2011 all essential oil from *C. wildii* was sold at a standard price of N\$5000 (U\$498) per kilogram of oil. Records are kept of how much resin is distilled at the plant, and profits are divided amongst the five trust holders accordingly. There are thus two levels of benefit: the individual benefit to the harvesters and the profit and ownership of the OPF which is also a communal benefit. Figure 12 shows the various levels of benefit and how costs are covered.

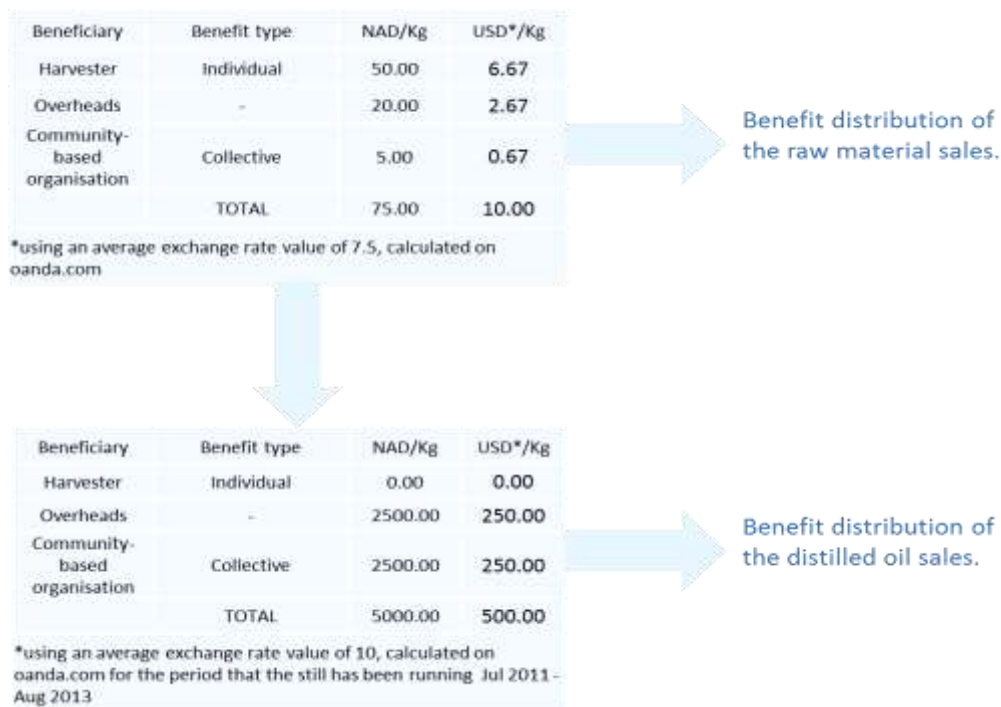


Figure 12: Two levels of communal benefit; communal income from the sale of the raw material to the OPF and profit earned from the sale of the processed essential oil.

Up until August 2013, the French flavours and fragrance company, V. Mane Fils, had an exclusive agreement with the conservancies for all harvested *C. wildii*. The company has since withdrawn from exclusivity of *C. wildii*, so there is an opportunity to sell the product to other buyers. The Mane group will however continue to buy small amounts of the *C. wildii* oil. The marketing strategy with *C. wildii* has been to build up a local market. This has resulted in five Namibian companies developing cosmetic products using the oil. Seven South African companies have also shown interest and will potentially use *C. wildii* in their products. The current stockpile of 207 kg of *C. wildii* oil can possibly also be offloaded to smaller overseas companies. The global shortage of traditional myrrh (*Commiphora myrrha*) may help to boost the sales of *C. wildii* as the products are similar. Establishing or finding markets and supplying them has not been the only barrier to increasing overseas sales. In order to satisfy European Union safety regulations and requirements, European companies require a complete safety dossier before considering a product. This dossier is expensive to develop and requires skill and equipment that is not available to the conservancy or the NGO. Thus meeting international regulations of import is perhaps the biggest threat or challenge to this enterprise.

#### 5.1.2 Community members who take part in the enterprise

For the 2012 - 2013 season, 123 harvesters were registered in Puros and 210 in Orupembe. Harvester training is done on an annual basis by IRDNC. Harvester training events are a time for discussion of the expected quantity of upcoming sales and to answer questions or hear complaints from the harvesters. The harvesters also use this time to update the by-laws or the harvesting rules of the conservancy. The harvester rules of Orupembe are shown in Appendix 3. Each conservancy and community forest that takes part in the enterprise is required to appoint a person from the community to manage the buying point, where harvesters congregate and sell plant material. In Orupembe a sub-committee has been created called the 'tree-committee'. This is made up of two women who are also harvesters. Their role is to liaise between the harvesters and the committee as well as with IRDNC. Puros chose not to create such a sub-committee, but the buying point manager in Puros also sits on the conservancy committee. Community members are regularly employed, for a few days at a time, by IRDNC to assist with the monitoring of *C. wildii* and to conduct resource inventories on other plants identified for commercialisation.

Involvement in the enterprise also leads to skills development. Buying point managers are required to record all transactions, ensure that only registered harvesters are selling plant material, enforce applicable by-laws set up by the conservancy, weigh plant material and pay harvesters the correct amounts. Buying point managers also need to store plant material safely and package it for transportation to Opuwo. To develop these skills, each manager is trained by IRDNC in a two day workshop followed by regular on-site training and support. The conservancy and community forest management committee also select one or two members to oversee harvesting activities and attend trainings. Committee members who attend the trainings also receive some level of skills-development. Harvesters receive annual training from IRDNC on harvesting techniques and many harvesters have also taken part in ‘women’s confidence building workshops’, also hosted by the NGO.

The OPF currently employs three community members. A significant amount of capacity building has taken place at the facility. This has included staff training in distilling essential oils of *C. wildii*, record keeping, on-site training of laboratory procedures and formal computer training. A visitor’s centre, funded by the Millennium Challenge Account Namibia (MCA-N), is to be built as part of the OPF in Opuwo. This centre aims to draw tourists to the OPF where they can learn about the enterprise and the communities who own it. Sales of the essential oils will also take place here, so creating additional employment opportunities for community members.

### 5.1.3 The institution

The Sustainable Livelihoods Framework emphasises the need for analysis of the policies and institutions that bind together to form a livelihood strategy. This allows for the identification of barriers and opportunities in achieving a sustainable livelihood (Scoones 1998). In this case the central institutions involved are the conservancy and community forest. Without this overarching framework the NTFP enterprise would not function. These institutions provide a legally recognised structure within which ownership of the natural resource by the community is recognised, so enabling sales to be made. The conservancy and community forest structure also attract funding from donors and support from NGOs as they legitimises community development and allow for structured acceptance of support. The national legislation of Namibia, which governs community forests and conservancies, can thus be considered as an enabling framework for livelihoods.

## 5.2 The impacts of commercialisation on communities

The results in this section are derived mainly from semi-structured individual interviews with community members. Personal observations were used to determine the relevance and significance of extracted themes. This section, in line with the objectives and the Sustainable Livelihoods Framework, has been divided into spheres of social impact namely, changes in relationships and power; traditional use and cultural changes; and economic impacts.

Chapter 2 has illustrated the importance of NTFPs for rural livelihoods (Cavendish 2003, Saxena 2003, Shackleton *et al.* 2011b). There are various roles that forest products can play, from providing nutrition, medicine and cosmetics to offering an income and for cultural needs (De Beer and McDermott 1989 Mahapatra *et al.* 2005, Shackleton *et al.* 2011b, Shackleton and Shackleton 2004). Shackleton *et al.* (2009) describe how one NTFP may have a number of uses and therefore fulfil a number of roles for rural people. The resin from *C. wildii* has multiple uses for the Himba community. The first is as a fragrance when making a red ochre and butter fat mixture to protect the skin. This red ochre has become so intrinsically linked to the Himba culture that *C. wildii* also fulfils a cultural role. Lastly, this study shows that as the first steps towards commercialising the resin have been taken and harvesters of the NTFP have received payment for harvested plant material, albeit intermittently as a result of sporadic sales for the past 7 years, the plant also provides an income to the individual and a small income to the conservancy.

### 5.2.1 Relationships and power

In order to understand how the power in relationships has changed as a result of the enterprise, questions about harvester-related decision making were asked as well as questions about gender issues. The intention here was to understand if there has been a significant empowerment of women taking part in the initiative. The word empowerment is used here to describe any strengthening in women's involvement in decision making, their ability to increase self-reliance, to make choices and to take control (Rowlands 1995). An assumption that empowerment comes automatically from economic development is not made as other factors, such as culture play a role, but a related aspect is that women gain independence from having a direct source of income (Rowlands 1995).

#### Empowerment and independence of women

The harvesting and sale of *C. wildii* has enabled women to have a direct source of income for their own use. This has led to the economic empowerment of women which has had

implications for gender roles in the community. Statements such as the following highlight the importance of direct access to cash for women in the community:

*“My husband left me, the omapia (resin) helps me to look after my children” (Respondent 10A, pers. comm., Puros, 17 January 2013).*

*“In 2008 I was pregnant and alone; the money helped me to buy everything I needed” (Respondent 5A, pers. comm., Puros, 16 January 2013)*

*“A woman who has a child without a father can support their kids” (Respondent 8A, pers. comm., Puros, 16 January 2013).*

A strong sense of pride among women was noted during data collection. Many women felt a sense of ownership of the NTFP enterprise and have taken on leadership roles within the project. One participant stated:

*“I work with the plants, I meet guests who want to know about omumbiri, and I take in complaints on omumbiri. I set up meetings. Anyone who wants any plants comes to me and I tell them where to go” (Respondent 3C, pers. comm., Onjuva, July 2011).*

This statement, made by a woman, is significant for cultural roles as it is unusual for the women to be leaders in managing the conservancy’s activities (IRDNC 2011). As women are traditionally the managers and harvesters of plant resources in the Himba culture there is a sense that the NTFP enterprise belongs to them (IRDNC 2011). One woman harvester describes this situation,

*“Women are the ones who first started harvesting, then the men followed us because we the women knew about this first” (Respondent 5B, pers. comm., Onjuva, 25 January 2013).*

Women are seen as the traditional knowledge holders when it comes to the uses of plants and this translates to women playing more of a role in leadership than is usual in other projects in the conservancy. *“The women are more knowledgeable as the men are new to harvesting, so they decide (on matters concerning harvesters)”* remarked another harvester (Participant 10B, pers. comm., Otukuva, 26 January 2013).

One of the questions asked in trying to decipher a possible change in power was, “Do men have more influence over the harvesting project now that they are also harvesting plant material?” This question was interpreted quite poorly, especially in the Puros interviews.

From the answers and from the transcriptions it seems that participants understood the question was more about who has authority overall. Based on the assumption that in Puros participants understood the question in this way, there was a sense that men are dominant in the homes and are generally the decision makers. Comments such as the following were made by various participants and highlight this sentiment:

*“Our culture says the woman must listen to the man” (Participant 10B, pers. comm., Otukuva, 26 January 2013).*

*“Women listen to men and do what they say” (Respondent 10A, pers. comm., Puros, 17 January 2013).*

*“Man is my boss at home, so also when I go harvesting” (Respondent 6B, pers. comm., Otjimenya, 25 January 2013).*

In Orupembe, where the question was explained more clearly (after it was clarified to the translator) people’s responses suggested that while the men were in fact the leaders or the decision makers according to cultural norms, the harvesting of plant products is the prerogative of the women and therefore women are the principal decision makers regarding NTFPs. Table 6 reflects these cultural norms as six participants (21%) in Puros rated men as the sole decision makers and none did so in Orupembe. Of the 29 harvesters who answered this question, 13 (45%) felt that the women are the leaders in this enterprise and are therefore the main decision makers. Six participants (10%) stated that there was some form of negotiation and women were at least equal partners in the decision making processes.

*Table 6: Puros and Orupembe: gender and decision making*

Major theme: Decision making is related to gender	No. of participants who made a similar statement out of 29 consulted			
	Puros	Orupembe	TOTAL	TOTAL %
Quotes to reaffirm theme				
The women are more knowledgeable as the men are new to harvesting, so they decide/ the women decide/ women started the harvesting so they decide/ women are leading us in this	4	9	13	45
Our culture or tradition says the women must listen to the man/ women listen to men and do what they say/ men make all the decisions/man is my boss at home, so also when I go harvesting	6	0	6	21
Men are in control, but I am not married so I decide/if we are at home the man is in charge, but harvesting is my business/the men will tell you but you can still decide for yourself	2	1	3	10
We talk together and then decide/ we are the same now as men also know omapia now	1	2	3	10

While women were seen as the main harvesters and the knowledge holders they did not always have the decision making power at a higher level in the enterprise. In order to



understand decision making at a conservancy level (not just amongst harvesters) a short ranking exercise was done. Twenty-nine participants were asked to rank the following groups: the management committee, the traditional authority (TA), harvesters, men, and women. These were ranked in the order of who has the most power in decision making to the least. The results from the exercise are depicted in Figure 13. The management committee was seen as the most powerful decision makers, followed closely by the traditional authority. Next were the harvesters, then the men of the community and finally the women.

Although the Himba are one of the few societies with both a patrilineal *and* a matrilineal system of descent as described by Crandall (2002) and Kavari (2005), it is clear, from observation and from interviews that in practice the Himba have a patriarchal culture. Both male and female participants described how women are subservient to men. The following statements highlight the sentiment that was expressed by nine of the 29 interview respondents:

*"According to our tradition, women cannot talk on behalf of the man. Women listen to men and do what they say. Our culture is different to yours" (Respondent 4A, pers. comm., Puros, 15 January 2013).*

*"They (women) will never be the same because man owns the home, they (men) are the head, because the man owns the livestock and they (men) can always sell the livestock. You can never compare the two (men and women)" (Respondent 5C, pers. comm., Onjuva, July 2011).*

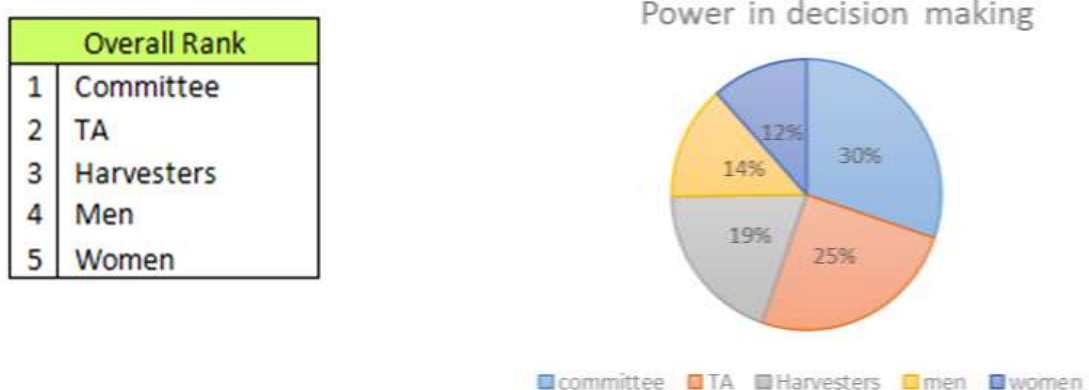


Figure 13: The perceived power of decision makers at the conservancy level

This patriarchy was evident in many instances, from personal observation. For example, when attending conservancy meetings it was noticed that women dressed traditionally, would sit at a distance from the meeting and rarely, if ever, contribute to the discussion. Men appeared to be the decision makers and the leaders in all matters pertaining to the conservancy and individual households (pers. obs. Kunene Region. February 2011 – April 2013).

Results show that despite the patriarchal tradition of the Himba, the women took on leadership roles in the NTFP enterprise that were inconsistent with other facets of their lives. 45% of participants stated that NTFP harvesting was the women's project and women were therefore the leaders. In Orupembe, two women took on active leadership roles in the 'tree committee' which forms part of the management committee. This required them to consult with community members and to committee members in decision making and to liaise with the NGO. NTFP development is often seen as a tool for empowering women. In an area where men are not challenged and where women are comfortable to participate, capacity building can take place and eventually filter over into other areas of life. In key informant interviews, NGO staff expressed the opinion that the women in the community were more likely to spend income on caring for the household than men were. This suggests that the empowerment of women in a community such as this may be integral to the overall well-being of the household.

#### Harvester networks

Of the harvesters who were asked *all* said that when they harvest plant material for commercial purposes, they did so in groups. Groups were described as a mix of friends and family consisting of both men and women. Nine of the 27 harvesters interviewed (33%) stated that traditionally, or before commercialisation, harvesting was done alone, while tending livestock. Commercialisation thus appears to have increased the sociability of the harvesting activities.

Table 7: Results from semi-structured interviews showing individual vs. group harvesting

Major theme: Commercial harvests are done in groups while harvesting for personal (traditional) use is done alone.	No. of participants who made a similar statement out of 27 harvesters consulted			
	Puros	Orupembe	TOTAL	TOTAL %
Quotes to reaffirm theme				
I harvest in groups, with friends and family and I spend more time harvesting/ you have to go in groups because you have to go very far to harvest/ I harvest in groups	14	12	26	96
Normally I go in groups, sometimes I go alone	1	1	2	7
I harvest by myself (for self) while looking after livestock	0	2	2	7
I used to harvest(for myself) in the past, then I went alone while looking after the goats	6	2	8	30
I harvest alone as I am harvesting a small amount/ I harvest alone if it's for own use	1	3	4	15

Men and women harvest together and the main reason given for this is that the men offer protection to the women. Of the participants interviewed, 66% stated that they were happy with men and women harvesting together as women feel safer when there are some men in the harvesting group. Statements such as the following affirmed this sentiment:

*“It is good to harvest together as men protect the women from animals” (Respondent 7A, Puros, 16 January 2013)*

*“Men carry water for us and protect us” (Respondent 15A, Puros, 17 January 2013)*

*“Men can quickly get help if something happens” (Respondent 14 A, Puros, 17 January 2013).*

When participants were asked to comment on which gender plays a dominant role in decision making while harvesting, there were some differences between the two case studies. Participants from Puros emphasised the patriarchal culture and expressed a dependency on the men to participate in harvesting and to support the project. This may be because Puros is home to more dangerous wildlife than Orupembe. Elephants, lions and rhino occur in Puros, while in Orupembe there are only a few rhino (NACSO 2010). 77% of participants said that they feel safer or more comfortable when men harvest along with the women as they can protect them from dangerous wildlife. Other reasons included that men assisted in the carrying of food and water and therefore harvesters were able to stay in the field longer and harvest more. Some respondents noted that if someone falls ill, the men could fetch help quicker.

### 5.2.2 Economic impacts

Participants highlighted a number of economic benefits arising from an increased cash income to the household. Harvesters explained that most use cash from plant material sales as an added income to their other livelihood strategies, such as pastoralism. Participants were asked to do a simple ranking exercise in order to determine what most of the earnings from plant sales income were spent on. The exercise involved ranking picture depictions of the most common expenses in the order of what they spent most of their harvest earnings on. If no money was spent on an item it was left out of the ranking. The results are shown in Figure 14, which gives the overall ranking from all of the participants and shows the relative importance of items measured by how harvesters weighted the expenditure on each item or category.

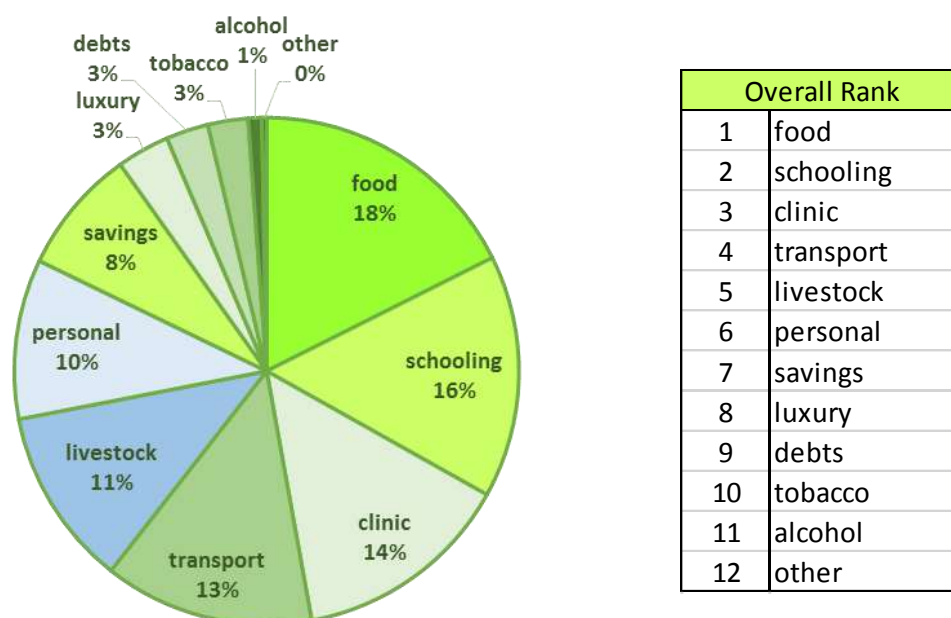


Figure 14: The overall ranking of what harvesters spend most of their earnings on

Figure 14 shows that the major categories were food, education for children, health care, transport, personal items and livestock. Personal items referred to any household items such as blankets, crockery and cooking pots as well as toiletries and hair braids. Livestock referred to the buying of goats, sheep and cattle and also to any costs incurred for the maintenance of herds. When participants mentioned ‘transport’ as an expense they were generally referring to the practice of paying someone with a car to transport them. This was expensive as the

distances were great and the area was only accessible by 4x4 vehicles. There were also very few community members who had vehicles and offered this service. Tobacco, alcohol, debts, luxury items and savings were ranked quite low on the expenditure list. Luxury items referred to items that were not necessary for everyday life but that many people wanted to have such as radios and cell phones.

Huebach *et al.* (2003) and Shackleton *et al.* (2007) highlight the benefits of a steady source of income from commercialising NTFPs. The results from the ranking exercise demonstrate these typical economic benefits for the harvesters in this study. It should be noted that these results were not taken from exact cash amounts, but rather from opinions expressed by harvesters. The reason this was done is that harvesters were not paid at the time of interviews and it would have been difficult to accurately recall precise amounts from the season before. Thus this exercise may indicate what harvesters view as their most *important* expense, rather than what they actually spend most of their earnings on.

An IRDNC study between 2008 and 2009 yielded similar results. Using a card monitoring system during the harvesting season, expenditure was tracked. Results from the study by IRDNC are shown in Table 8, correlated to the results from this study. Results from these two studies are not directly comparable as the percentages of expenditure in the IRDNC study were from exact amounts, while in this study they were calculated by assigning each rank a weighting between 1 and 12 (see 5.2.2). What is however notable is that food, schooling, livestock and personal items were ranked highly in this study, which agrees with the results from the study done by IRDNC. Savings were ranked fairly low in this study, but in the

*Table 8: A comparison of the expenditure of harvesters between this study and one done by IRDNC in 2008/2009*

Overall rank from this study	Expenditure from IRDNC study (adapted from IRDNC 2011)
food	savings
schooling	food
clinic	schooling
transport	personal
livestock	livestock
personal	other
savings	
luxury	
debts	
tabacco	58
alcohol	
other	

IRDNC study harvesters stated that most money was saved. There may be a number of reasons for this discrepancy. Firstly, savings were defined differently in the two studies. In the IRDNC study, savings was defined as cash on hand to pay for items such as transport to the clinic. In this study savings were said to mean cash saved for no specific purpose or a future goal of buying livestock or a vehicle. As most harvesters in the IRDNC's study stated that savings were used for transport to the clinic, the results are not in conflict. Secondly, overall income from harvesting was higher at the time of the IRDNC's study so harvesters had more money to save. Moreover the present study was done during a drought, while that done by IRDNC was during years of good rainfall. As people in this area are severely affected by drought, they may not have been able to save earnings at the time of the study.

### Improved nutrition

Food was ranked the most important expense. Figure 14 shows that harvesters regularly bought food with the money that they earned from plant sales. Of the harvesters questioned, 88% stated that they regularly spent at least some of their earnings on food. This implies that commercialisation has influenced the food security of the community. As this community is largely dependent on their livestock for a food source and there is a high risk of drought in the area which affects livestock numbers, an alternative source of income to buy food is valuable. Participants noted that they were able to eat different types of food that they were not able to afford before the enterprise started:

*"My eating has changed because now I can eat whatever I want, before harvesting I could not afford to eat certain food" (Respondent 9A, pers. comm., Puros, 16 January 2013).*

Respondent 1A, amongst others, stated that her children's health has improved, *"I was not eating very well but now I eat very well and my children are stronger"* (pers. comm., Puros, 15 January 2013). Another harvester (Respondent 15A) described how she was left destitute when her husband left her and was forced to rely on other members of the community for food. When *C. wildii* was commercialised she was able to buy food for herself and for her children (pers. comm., Puros, 17 January 2013).

The results conclusively show that income from NTFP sales increased people's access to food and to a larger variety of food. Thus overall food security was being promoted which was critical in times of drought. However, the United Nations Standing Committee on Nutrition (UNSCN) differentiates between food security and nutrition security, stating that

one does not equate to the other. Food security refers simply to accessing adequate food, while nutrition security includes quality or health status of the food being accessed (United Nations 2013). While it is beyond the scope of this study to determine if nutrition has been improved, it is noteworthy that other research has documented an increased incidence of diseases caused by a change in diet in other indigenous groups (Joe and Young 1994; Balick and Cox 1996; Kuhnlein and Recevuer 1996; Kuhnlein *et al.* 2004). The diseases suffered by indigenous peoples in cultural transitions and lifestyle changes are receiving increasing attention with major trends being identified, in obesity, diabetes, and associated complications including cardiovascular disease (Kuhnlein and Recevuer 1996).

As Himba people live off their herds, consuming mostly milk and meat, their diet would not be described as conventionally healthy. Maize has also been included as a staple, but this is mostly procured from traders as not everyone cultivates the crop (Jacobsohn *et al.* 1990; Bollig 2009). Participatory observation showed that there were occurrences of diabetes, high blood pressure and cardiovascular diseases, but whether or not incidences are increasing or whether there is a link to dietary change has not been documented in this area. It may be relevant that 52% of participants indicated that income from harvesting was being spent on foods that are high in sugar, fat or are highly processed.

### Health care

Medical treatment was ranked as the third highest expenditure by participants (Figure 14). Again, without specific figures to verify this, it is more likely that healthcare was perceived to be an important expense for harvesters rather than being an indication of what earnings are actually spent on. Respondent 11B described how he normally had to sell livestock in order to have enough money to travel to the clinic (pers. comm., Otukuva, 26 January 2013). As the closest clinic is approximately 120 km from Orupembe (in Otjiu) and 105 km from Puros village (in Sesfontein), transport and access to healthcare are closely linked. Transport was ranked just under healthcare as the fourth largest expense of harvesters. Having cash allowed harvesters to pay for lifts from their villages to the clinic. However, this depended on someone being available to transport them to the clinic or on hitching a lift with a traveller. Whether or not a harvester had access to healthcare was thus not only determined by access to money.

### Improved schooling

It is clear from the data that most participants used money from harvesting as an add-on to money from other sources, to pay school fees and other education related expenses. Of the harvesters consulted, 24 (89%) spent some of their earnings from harvesting on schooling their children. This figure also includes relatives other than the harvester's own children, such as nieces, nephews, grandchildren and siblings. One young woman reportedly paid for her own schooling as well as a uniform and other connected expenses, when the enterprise was started (Respondent 3B, pers. comm., Orupembe, 25 January 2013).

Of the harvesters consulted, 41% stated that when there is no income from harvesting, they would 'find another way' to send their children to school. When asked how they would do this, participants said that they would either sell livestock or crafts or try to find work somewhere. Four participants (15%) stated that were it not for the opportunity to make money from harvesting their children would not go to school. In Puros, more people indicated that they preferred to use their salaries or wages to send their children to school and spend the money from harvesting on other expenses. The likely reason for this is that there were more jobs available in Puros than in Orupembe so more people had access to wages or a salary.

It is not unusual in Himba society for a family to send only some of their children to school, with the rest remaining at home to look after livestock and to assist with family chores. One young girl stated that her main reason for harvesting NTFPs was to support her older sister in her schooling (Respondent 10B, pers. comm., Otukuva, 26 January 2013). Although persons younger than 18 were generally excluded from selling plant products directly to the conservancy, many did harvest together with older family members who sold the plant material for them.

### Livestock use change

The maintenance and buying of livestock was ranked as the most important expense by ten (34%) participants. Participants valued the commercial harvesting of NTFPs as it allowed them to keep their livestock rather than having to sell animals to cover expenses. Ten (34%) participants remarked that they valued the harvesting programme as it allowed them to hold on to livestock that they would otherwise have had to sell. The following statements epitomised this sentiment:

*"Normally I would sell livestock when I have problems, but now that we started harvesting we don't have to sell our livestock anymore, we can use money from*



*Omumbiri" (Respondent 5C, pers. comm., Onjuva, July 2011).*

*"Instead of selling their livestock to sustain themselves now people harvest to sustain themselves" (Respondent 3C, pers. comm., Onjuva, July 2011).*

*"To me it is helpful as I didn't sell goats for a year. I am waiting to be able to sell more gum (resin). I need the omumbiri money to come so I can stop selling goats again" (Respondent 14B, pers. comm., Omungunda, 27 January 2013).*

Some respondents stated that in addition to being able to lower the amount of livestock they sold they also managed to buy livestock. Eight (28%) of the participants interviewed indicated that they were able to buy livestock. Statements such as, *"I bought a cow with this money"*, *"I bought goats"* and *"I bought small goats and even a cow"* were recorded (Respondent 11B, pers. comm., Otukuva, 26 January 2013; Respondent 7A, pers. comm., Puros, 16 January 2013; and Respondent 12B pers. comm., Otukuva, 26 January 2013). These statements highlight the value that the Himba placed on their livestock and show that increasing their herd size was a priority for many. However, two (7%) of the participants stated that they felt the money made from harvesting plant material was not enough to purchase livestock once immediate needs were covered, such as food, medicine and personal items.

When discussing livestock use, it is important to note that it is an emotive topic to the Himba and is linked to how wealth and status are measured (Jacobsohn *et al.* 1990). The Himba place a fundamental value on their cattle demonstrated by the Himba saying, 'without cattle a man is nothing' (Jacobsohn *et al.* 1990). Besides their cultural importance, the Himba are highly dependent on cattle, goats and sheep for their survival. For most Himba, meat and milk from livestock is their staple diet (Jacobsohn *et al.* 1990). It is possible that participants expressed this importance and emphasised the value of the livestock in a way that may have distorted results. Keeping in mind possible exaggerations, it does appear that an intervention such as the commercialisation of NTFPs has the potential to impact on livestock farming practices as harvesters tended to use the opportunity to either build up their herds by buying animals, or to avoid selling animals to meet basic needs. This change in livestock use may eventually have ecological impacts as herd sizes grow and compete for grazing with local wildlife. This is something to consider as diversifying livelihoods amongst the Himba may place more pressure on an already fragile grazing ground and could conflict with the wildlife and conservation objectives of the area. Alleviating the dependency on livestock in order to

improve food security may also inadvertently lead to increases in herd sizes as this is a priority for the Himba's. Davis (2011) explains how the Himba pastoral economy is based on subsistence and while there is a desire to acquire greater herds in order to support a larger household, there is also a balance which pastoral people, such as the Himba, understand. In other words, too many cattle are not manageable and will not be successful as they will exert too great a pressure on grazing lands. Pastoral economies thus have a rationale of equilibrium in which they strive to ensure subsistence and sustainability.

#### Impacts on the extended family and wider community

Although individual harvesters are the primary beneficiaries of plant materials sales, there is a network of people within the community who benefit indirectly from this income. Much of the cash that is paid out to harvesters is passed on to relatives, community members or those in need. In order to capture this network of beneficiaries, harvesters were asked to whom in the community they regularly gave cash. The question referred specifically to cash and not to 'buying for' or 'paying for' as it was felt this would be easier for harvesters to recall and would thus yield a more accurate result. This means that results show the *minimum* number of people who benefit from harvesters income excluding those people who receive food or other items besides cash.

Table 9 shows the results from the interviews. From the 26 participants, who were harvesters and were asked this question, a further 34 community members were reported to benefit by receiving cash from the harvesters. This shows that many more community members than just the individual harvesters, benefitted from the enterprise<sup>1</sup>.

One participant described how he is too old to harvest for himself, but that, "*my relatives give me money, my cousins, my younger brother and my nephew*" (Respondent 2B, pers. comm.,

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<sup>1</sup> Note: the number of children indicated on Table 9 refers only to those who receive cash directly from harvesters, the number of children and grandchildren who benefit indirectly, is thus higher.

Omungunda, 25 January 2013). Others described how they shared the cash they earned with vulnerable members of the community, “*I have a lot of orphans that I am taking care of with this money*”(Respondent 3A, pers. comm., Puros, 15 January 2013). Respondent 13B described how in the community it is common to assist those who are in need, stating that “*I even help others in need who did not go to harvest and I go to buy maize meal when they need it*” (pers. comm., Omungunda, 27 January 2013).

*Table 9: An indication of how many other people, besides harvesters, benefit from the NTFP enterprise*

	Puros	Orupembe	TOTAL
Husband	1	3	4
Wife	0	0	0
Father	0	0	0
Mother	4	3	7
sibling	4	2	6
children/grandchildren	9	2	11
other (friends)	6	0	6
			34

#### Personal items bought by harvesters

Harvesters mentioned buying personal items (soap, blankets, and clothes) with money made from harvesting. Data shows that the enterprise was valued for allowing people to purchase personal items that they would not normally be able to buy. Of the harvesters interviewed, 53% stated that they spent at least some of their earnings on personal items. In the ranking exercise harvesters reported that 10% of earnings amongst them was spent on ‘personal items.’ Buying of personal items is fairly new to Himba culture where most household items are made from wood and leather. Being able to purchase blankets, hair extensions, cans or tanks to store water, and numerous other useful items was however valued by the respondents.

#### 5.2.3 Cultural and traditional use changes

Results from the individual interviews show that in some cases the traditional use of *C. wildii* had been affected by commercialisation. Two participants who were wearing traditional Himba dress at the time of the interview stated that they did not use *C. wildii* for personal use anymore as they preferred to sell it. This is noteworthy as *C. wildii* and the traditionally used ochre and butterfat mixture are integral to Himba tradition (Jacobsohn *et al.* 1990). Table 10

summarises the major sentiments recorded during interviews and shows that 17 % of the harvesters interviewed did not use *C. wildii* themselves if they had the opportunity to sell it. However, due to the nature of the cultural use of the resin, very little is needed for personal use and 57% of respondents stated that they continued to use the plant material in exactly the same way as before commercialisation.

Participants commented that *C. wildii* was abundant and easy to find. Of the harvesters consulted, 30% felt that the “*omumbiri will never run out*” (Respondent 2C, pers. comm., Puros, July 2011) and that there was more than enough for everyone to use and enough to sell. Two participants, 7%, mentioned that the resin had run out near their homes and that they did have to walk further to harvest resin for personal use.

Table 10: Sentiments of respondents about the traditional use change of *C. wildii*

Statements around traditional use changes	Total	%
I used to harvest omumbiri for myself but now I just sell it	5	17
I do still use omumbiri, but I use less as I would rather sell it	2	7
I use omumbiri in the same way as always	17	57
There is still enough omumbiri for personal use	11	37
There is less omumbiri now for personal use	1	3
I harvest much more omumbiri because I also sell it	6	20

\* Note: some participants agreed with more than one of the statements, thus 140%

It is clear that *C. wildii* is of a cultural importance to the community. Of the participants interviewed 25% noted that the smell is what makes the plant significant as well as the fact that ‘others’ seem to appreciate the scent of *C. wildii* as they do. The value of the plant thus lies in its cultural importance to the Himba as well as in being noticed and appreciated by others. There is a sense of pride in discovering this value and in sharing it with more people, “*It is very important to me because it smells good and even other people apart from Himbas started using it*” (Respondent 12A, pers. comm., Puros, 17 January 2013). Commercialising traditionally used plants can sometimes act as a preservation of cultural practices and knowledge, as the plant remains relevant in the community and thus future generations are exposed to its uses (Cunningham *et al.* 2009; Shackleton *et al.* 2009).

### Pastoralism reaffirmed

Changes in livestock use, as a result of the NTFP enterprise, have been discussed earlier in this chapter. Results showed that livestock farming may be promoted as harvesters used the opportunity of an increased income to maintain their herd sizes or even to increase herds. This indicates that the commercialisation of NTFPs may help to reaffirm the cultural practices of the traditionally pastoralist society of the Himba. This practice was greatly valued by the study participants. Another aspect related to the continuation of a traditional way of life is the fact that harvesting plant materials is part of the Himba culture and tradition and thus it may be that this enterprise enhances cultural practices rather than damages them. Also, harvesters carry on with their day to day lives and do not have to leave their homes or their other livelihood sources in order to participate in this enterprise.

#### 5.2.4 Social problems and benefits

Results yielded a mixture of benefits and problems from the commercialisation of the NTFP. Many impacts found in this study are echoed in literature from around the world. Cocks *et al.* (2011) describes the non-monetary or indirect benefits that are attained from the commercialisation of NTFPs, some of which are reflected in this study. A number of social problems may also arise from the commercialisation of these plants (Kusters *et al.* 2006; Belcher and Schreckenber 2007; Shackleton *et al.* 2009). In this section both social problems and benefits arising directly and indirectly from the commercialisation of NTFPs are discussed.

### Issues around alcohol use

Participants were generally reluctant to answer questions about alcohol use in the community and responses were vague and non-committal. However, conclusions can be drawn based on information obtained from community members and from personal observations. Figure 14 shows that according to the harvesters interviewed only 1% of all earnings is spent on alcohol; none of the interviewees said that any of their own earnings were spent on alcohol. However, 41% participants mentioned that other harvesters were spending some money on alcohol. One person stated that *most* of the harvester's earnings, in Puros, are being spent on alcohol and that it is "*a very big problem here and it needs to be addressed*" (Respondent 12A, pers. comm., Puros, 17 January 2013). Participants made general references to alcohol abuse, stating that "*some people buy alcohol instead of food with the money*" (Respondent 2A, pers. comm., Puros, 15 January 2013). One harvester made reference to young men in

particular and five participants said that there are harvesters who harvest specifically to buy alcohol.

One participant was seen buying alcohol with earnings from harvesting prior to an interview, but when asked declared that she would never buy alcohol (pers. obs. 16 January 2013). While this sort of embarrassment for spending money on something that is perhaps not seen as moral or socially acceptable is perfectly understandable, it does show that results from the study are likely to be biased. Participants seemed hesitant to discuss the subject of alcohol unless they were speaking in very vague terms about others members of the community and responses recorded are also significantly varied. For instance, some stated that alcohol abuse is a very big problem and affected many members of the community; others said it was only a small group who abused alcohol and so it was not really a problem; and others again stated that almost no one in the community bought alcohol and that there was no problem of abuse.

An interesting result from the participant interviews is that there was a marked difference between the two case studies when it came to reported alcohol abuse, with results showing that it was only a problem in Puros. This was substantiated by observation during data collection. Puros had a higher rate of alcohol abuse and this was most evident in the main village of Puros. There was a permanent shop that functioned as a bar with alcohol on sale. Village members gathered here to meet socially, to listen to music, to buy food or to buy alcohol. In Orupembe, alcohol was sold from small shops in the main village. This difference may indicate that there is not a strong link between NTFP commercialisation and an increase in alcohol abuse, but rather that other factors, besides the harvester's earnings, play a role. This is to say that any increase in income may cause an increase in alcohol abuse, regardless of the source. Participants had differing opinions on whether or not there is a link between the two. Respondent 12A stated that those who are drinking alcohol "*would still sell goats to buy alcohol, it's not just because of harvesting*" (pers. comm., Puros, 17 January 2013). Others believed that the cash from harvesting was easier to part with as it was viewed as "free money", stating that you can just "*harvest money for free*" (Respondent 11A, pers. comm., 17 January 2013). From the interviews it was deduced that money earned through harvesting was regarded as "free" or easy to come by as it required no investment other than some time and a little physical effort.

The difference in the two case studies may arise from a number of possible reasons, or a combination of them. Perhaps most obviously, many more people in Puros had permanent

jobs and so they were making more money. The people in Puros village were also more established and less nomadic than in other areas. This is because the village had grown to such a size that people chose to remain there permanently and many had jobs that meant they were no longer needed to herd livestock and so had made homes in the village. Puros had a more established, bigger shop, where music was played and there was a pool table and more alcohol was available. The shop had become a meeting place for the villagers and much of the daily activity took place around it. People in Puros village were also less traditional and more westernised than in Orupembe, this may mean that they had lost some of the older values and social structures and that may have led to more drinking. As modernisation was greater in Puros, more people had some level of schooling from which many had dropped out, this may mean that they were experiencing disillusionment and disassociation from the culture and the place. There was a bigger culture of drinking in Puros and so people were pressurised to join in. Finally, logistically, the area was slightly more accessible and so the shop was easier to stock with alcohol. There was also a larger population in the village and so more reason to keep the shop well stocked.

This leads to questions about the effects of commercialising a NTFP in an area such as Puros village, where alcohol abuse was evidently a problem, and how to minimise that problem. What also needs to be considered here is whether or not there is indeed a direct link between the commercialisation of plant products and alcohol abuse or whether the two are unrelated. This is difficult to determine as alcohol abuse can be attributed to a number of variables that have been introduced with the development of the area. These include the increase in the supply of alcohol, a corrosion of social structures and traditional values, an increased permanence of villages where people are gathered together for longer and are less active, an increase in cash income from other employment opportunities and a growth in the cash economy of the culture as people are more inclined to sell livestock than in the past. The literature review did not yield any reference to a direct link between the commercialisation of NTFPs and an increase in alcohol abuse in other areas of the world.

#### *NTFP commercialisation and conflict*

Participants in Puros frequently referred to a long-standing conflict in the conservancy. Although the conflict was not caused by the harvesting programme itself, it was manifested in the enterprise as well as in other conservancy activities. One participant summed up the conflict and how it was overcome during an interview;

*“There was a conflict in the community as the committee was only representing one family here. Some of our money (for harvesting) was taken to Onjuva (by IRDNC) as a result of this conflict. However, we have now solved the problem, as some of the positions (of committee and staff) have been changed. The ones who were complaining before are harvesting now. We are moving forward” (Respondent 12A, pers. comm., Puros, 17 January 2013)*

There were two main families of the area and most conservancy members belonged to one or the other. The conflict stemmed from disagreements over the sharing of communal benefits and especially a feeling of lack of representation in leadership positions in the conservancy. All conservancy enterprises were affected by the conflict as they were used as platforms to express this dissatisfaction. The NTFP enterprise was also affected as community members disagreed over the appointment of the buying point manager and some harvesters felt that members of one family were being paid more per kilogram of plant material than those of the other family (pers. obs., Puros, February 2011 – January 2013). This sort of conflict in CBNRM is to be expected, especially when communities start making money for the first time and have to work out how to deal with communal benefits (IRDNC 2009). The conflict may well have helped the enterprise by creating momentum and energy to tackle problems (IRDNC 2009).

While this conflict was not caused by the NTFP enterprise it did aggravate the situation as tension was created due to feelings of inequity. A number of cases demonstrate how equity within a community may actually decline with an intervention such as this (May 1986; Ruiz-Pérez *et al.* 2004; Gausset *et al.* 2005; Belcher and Schreckenberg 2007). This inequity may either be gender based or as a result of elite capture, or both. In this case the conservancy and community forest institutions could govern for equity between the harvesters as they could implement by-laws to ensure that all harvesters received an equitable share of the funds available. An example is the implementation of limits to the amount of plant material each harvester could sell if only small amounts were being bought. Consequently everyone had an equal opportunity to acquire some income.

#### *The benefits are real*

All participants expressed, in some way, a positive attitude towards the NTFP commercialisation. In all interviews statements such as the following were heard:

*“It has helped the village very much” (Respondent 2B, pers. comm. Omungunda, 25*



January 2013).

*“It has helped provide for our basic needs” (Respondent 11A, pers. comm. Puros, 17 January 2013).*

*“This community has no fields to plant so it is really helping us” (Respondent 6A, pers. comm, Puros 16 January 2013).*

*“When the community hears the money is coming, everyone is happy” (Respondent 8B, pers comm. Otukuva, 26 January 2013).*

These statements show that participants felt the enterprise was useful to the community as a whole. Statements such as the ones below show that the participants wanted the enterprise to continue;

*“I never want this project to end” (Respondent 14A, pers. comm. Omungunda, 25 January 2013).*

*“We want to harvest more” (Respondent 4B, pers. comm. Onjuva, 25 January 2013).*

*“I am waiting to sell more gum” (Respondent 13B, pers. comm., Omungunda, 27 January 2013).*

Participants also noted throughout the interviews that the harvesting project had been beneficial to the individual and had, in some way, improved the lives of the harvesters.

*“It has taken away my poverty” (Respondent 15B, pers. comm. Puros, 17 January 2013)*

*“My living condition is improved” (Respondent 9B, pers. comm. Orutanda, 26 January 2013)*

*“I am not working so it is very important to me” (Respondent 8A, pers. comm. Puros, 16 January 2013)*

*“I have no job, it has really helped me” (Respondent 14B, pers. comm. Omungunda, 27 January 2013)*

Many encouraging statements were recorded and while this study explores the challenges and problems as well as the benefits, the interviews reflected an overall positive attitude towards

the enterprise. Of the 29 participants interviewed, 19 (66%) said that they had not experienced any problems that were related to the NTFP enterprise. It should be noted however that this was peoples' first reaction to the question, "Have you experienced any problems in the conservancy or village that have been caused by the enterprise?" This reaction may be as a result of response bias where participants feel the need to fake a socially desirable 'good' response (Furnham 1986). This may be especially relevant as the researcher was associated with IRDNC, who supported the enterprise, thus participants may have felt that negative responses could have adversely affected the support that the NGO would provide. Another explanation for these responses is simply that participants did feel positive about the NTFP enterprise and so conveyed satisfaction and gratification when queried.

### Conclusion

Figure 15 summarises the results of this section depicting how there have been impacts on different spheres of people's lives. Results in this figure are divided into impacts that stem from an increase in income to the harvesters and to the community and into social impacts. Social impacts encompass the effects on relationships and power and how the enterprise has changed dynamics in the community. They also include changes in culture and tradition, Figure 15 is used as the basis of Figure 17 in the following chapter which shows a closer link to the five capitals referred to in the sustainable livelihoods framework. The sustainable livelihoods framework is used here as a tool to determine which spheres of people's lives contribute to a diversified and resilient livelihood.

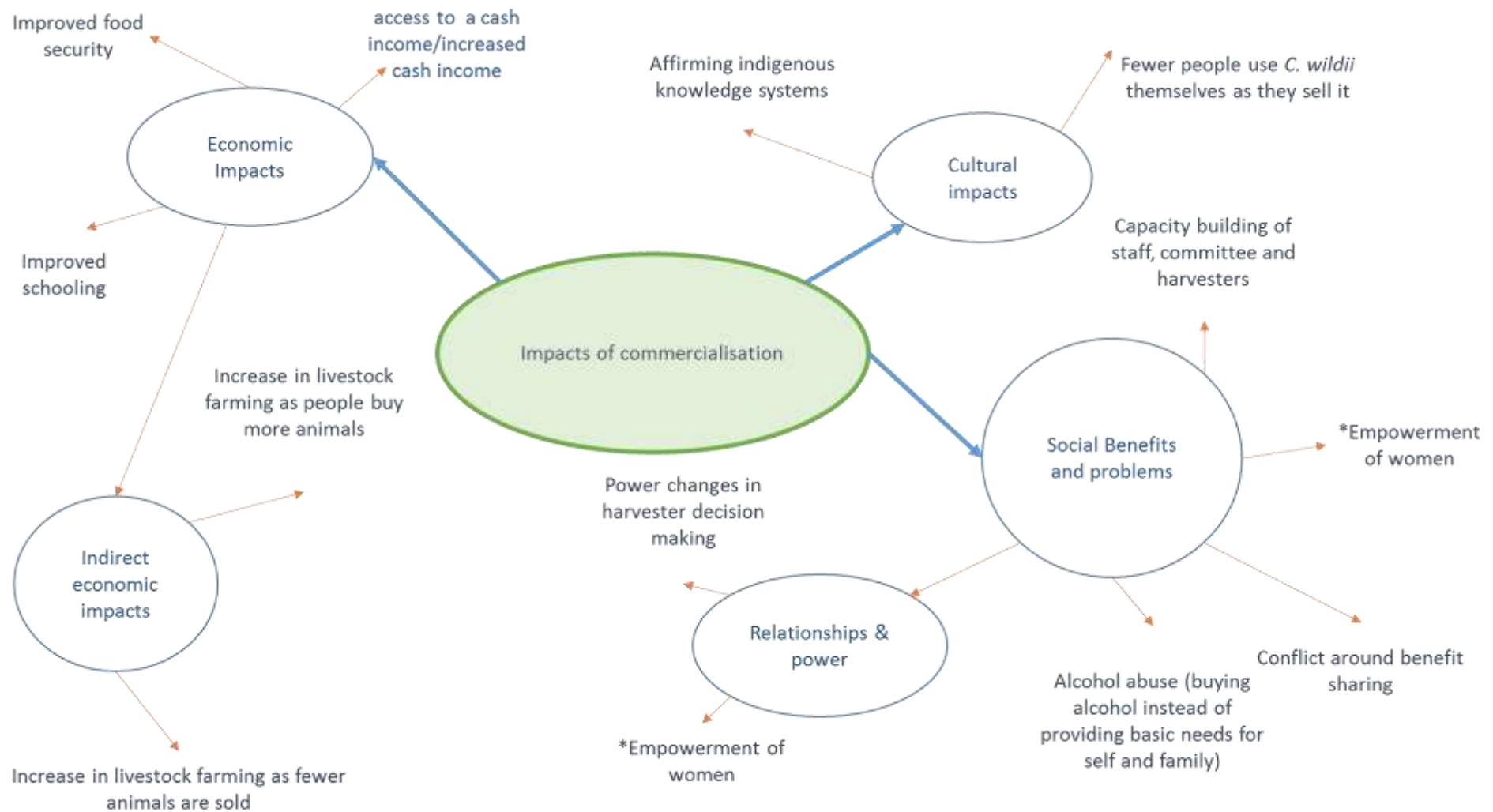


Figure 15: A summary of the results grouped according to the various forms of capital they may impact on, as shown in the Sustainable Livelihoods Framework.

# Chapter 6: Conclusions and recommendations

## 6.1 Conclusions: A sustainable livelihood?

What remains to be deliberated is whether or not the NTFP commercialisation enterprise contributes to a sustainable livelihood strategy. While the reduction of poverty is the main focus of the sustainable livelihood approach, that approach also considers all aspects contributing to a livelihood, including monetary and non-monetary factors. What does it mean to have a sustainable livelihood and at what point do the negative impacts or trade-offs begin to outweigh the economic and other benefits? This is not a straightforward issue as a number of factors must be taken into account. People seek out and need an income in order to cope with a modern cash economy, while trade-offs and indirect benefits are often considered secondary to this driving need. What should then be considered is how to make the livelihood as sustainable as possible and also how to minimise any negative impacts and maximise non-monetary benefits. The adapted sustainable livelihood framework, illustrated in Figure 16, shows the various components of the NTFP enterprise’s contribution to livelihoods and also the processes that bind them together and the desired outcomes. The focus of this research lies in the ‘pentagon of capitals’ shown in the figure.

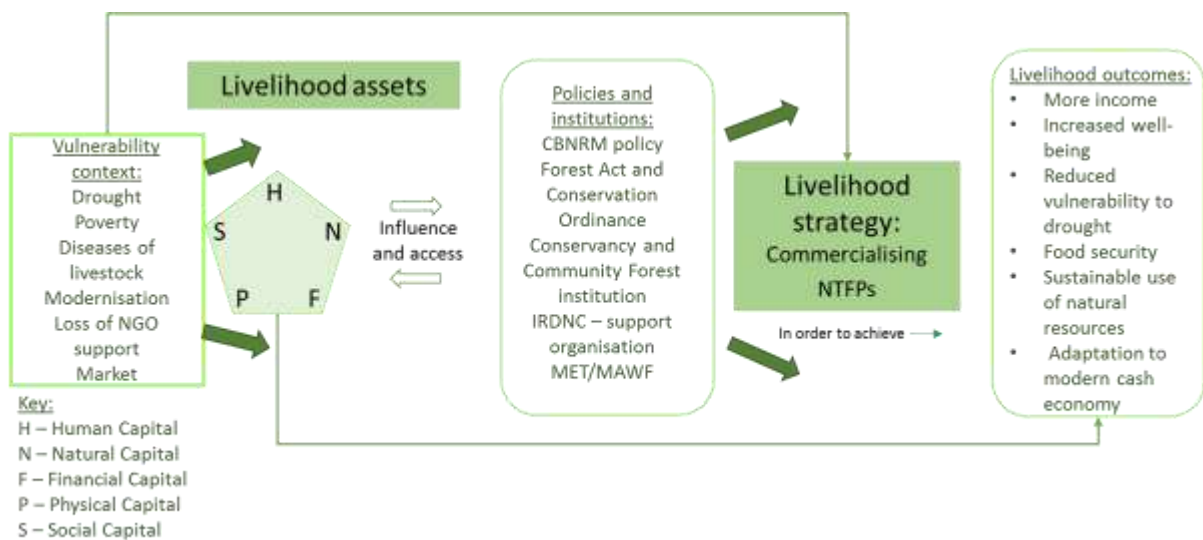


Figure 16: The sustainable livelihoods framework adapted to reflect the NTFP enterprise in the Kunene region

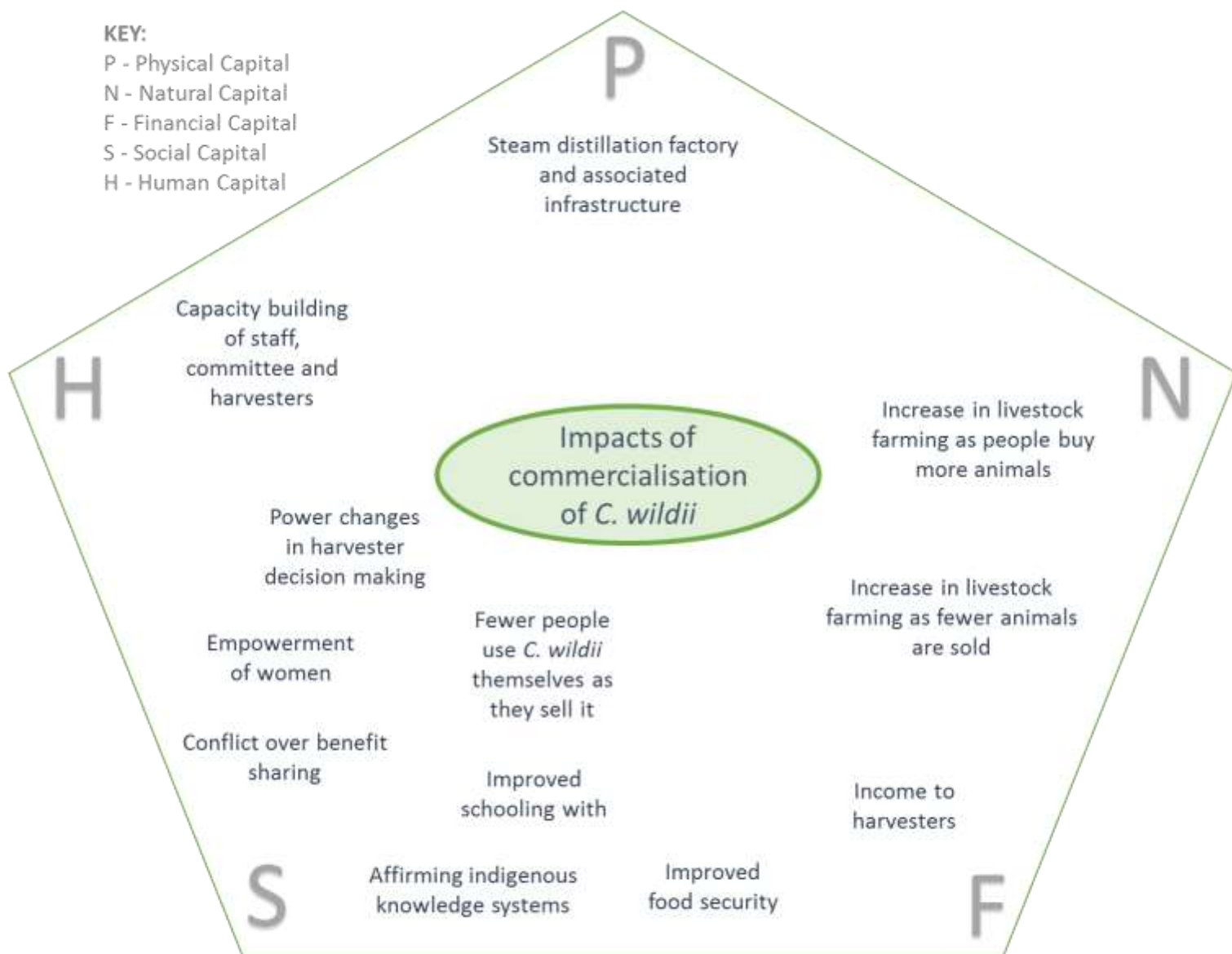


Figure 17: A summary of the results grouped according to the various forms of capital they may impact on, as shown in the Sustainable Livelihoods Framework .

Figure 17 is a representation of the results from this research from Objective 2: Determine the social impacts of commercialisation. The commercialisation of *C. wildii* was found to have had notable impacts on four different aspects of peoples' daily lives: Human Capital, Social Capital, Financial Capital and Natural Capital. Physical Capital has also been affected and is shown in the figure. Most notable is the direct economic impact from an increased cash income to households. This allowed for a number of benefits such as an increase in food security, a greater opportunity to educate children, a better possibility for transportation and access to healthcare. Relationships were affected as power dynamics shifted, especially between men and women. Women have been empowered as they are the traditional custodians of the plants and have thus experienced most of the benefits and have taken on leadership roles that would otherwise not have been available to them. Some social problems may also have arisen. Culture and tradition have also been influenced as slight changes in the personal use of *C. wildii* were noted. These impacts are further described in

Table 11 which summarises each component along with the possible positive or negative impacts associated with the NTFP enterprise. The 'assets pentagon', shown in Figure 16 and 17, was used to categorise perceived positive or negative impacts of the NTFP enterprise on the livelihoods of the local people.

*Table 11: A description of the 'capitals' in this livelihood framework, adapted from Hinshelwood (2003)*

Form of Capital	Positive Impact	Negative Impact
Natural Capital	Harvesting of renewable plant materials for income to the community reduces the dependence on livestock and reduces vulnerability to climate change.	Possible long term ecological impacts if livestock herds are increased due to less forced selling. Minimal impact from harvesting directly
Financial Capital	Communal profits can be invested back into the community and into the enterprise. Employment created for buying point managers and staff in the Opuwo Processing Facility. Tourism potential, visitors centre and local tourism	Inaccessibility to markets due to regulations and changing barriers, such as European Union regulations.  A dependency on the NGO to support the enterprise.

	(attending buying point events)	
Social Capital	<p>Networks and groups of harvesters create a sense of community.</p> <p>A flagship project, especially one linked so closely to traditions enhances local pride.</p> <p>New community initiatives could be strengthened with profit from essential oils.</p> <p>Women are empowered as the traditional custodians of plant resources.</p> <p>Strengthening of traditions as women can maintain a traditional lifestyle instead of having to leave the village in order to earn cash.</p>	<p>Conflict between harvesters who feel they are ‘cheated’ at buying point events</p> <p>Conflict between the genders as women take on more of a leadership role</p> <p>Increase in alcohol abuse as income to community increases.</p>
Human Capital	Capacity building of buying point managers (record-keeping and arithmetic) and OPF staff (distilling of essential oils, record-keeping and manufacturing skills).	
Physical Capital	Storage facilities and some offices based in the conservancies, Opuwo Processing Facility and storage rooms and a visitors centre	

The Sustainable Livelihoods Framework has also assisted in identifying the threats to this enterprise and to the communities themselves. Threats to the community include drought which would make the enterprise far more critical for the harvesters. Another threat is livestock diseases which may affect the primary livelihood strategy, making harvesters more reliant on the enterprise. A loss of grazing land due to overgrazing, drought or increased wildlife is another threat that would drive the community to seek out alternative livelihood strategies. Threats to the enterprise include a loss of NGO support, a loss of government backing, failure to access markets as a result of stringent international regulations, failure to deliver on orders and thereby loss of buyers and technical issues at the OPF. Any threats to the institutional structure of the conservancy and community forest institution would also affect the enterprise. Threats to the institution may include dissolution by the state as a result of mismanagement of community funds or resources, a change in government legislation or changes in the national CBNRM programme. The community may decide they no longer

want to form part of a community-based organisation and may voluntarily dissolve the institution. These, amongst others, may threaten institutions and thus the enterprise.

It is recognised that the NTFP enterprise plays an important role in the lives of harvesters and in the community and thus can be regarded as a suitable strategy for the diversification of livelihoods and for alleviating poverty. The enterprise also satisfies a number of the requirements dictated by Scoones (1998 and 2009) and described in Chapter 2, a summary of which is given in Table 12.

*Table 12: Elements of a sustainable livelihood*

Elements of a sustainable livelihood	Achieved or not?
1. The creation of work days, meaning that gainful employment is created. Employment must include a wage, an element of production and recognition, or a sense of having done something meaningful.	A sense of pride and ownership has been instilled in the harvesters, especially the women. Gainful employment has been created in which people have access to an income. Harvesters are recognised for their traditional knowledge
2. Poverty reduction as poverty	Poverty has been slightly reduced, and hopefully will improve as sales improve and more NTFPs are commercialised
3. Well-being and capabilities – this element relates to the overall well-being of people and may include factors such as self-esteem, equality, security, happiness and also material concerns.	Women are experiencing empowerment, improved security has been achieved during times of drought, material needs are more easily met and harvesters can continue their way of life and adapt to a cash economy.
4. Livelihood adaptation, vulnerability and resilience – this refers to the ability of a livelihood to cope with and to recover from shocks and stresses	This is questionable as this particular livelihood depends on a number of factors, namely NGO support, institutional functioning and markets. A loss of any of these may result in the discontinuation of the enterprise.
5. Natural resource base sustainability	The natural resource is being utilised, but not depleted as harvesters do not damage the <i>C. wildii</i> tree in any way when collecting the resin.

Results show that commercialisation has had a number of impacts on the two communities. Some are positive and others are negative, but in general there appears to have been a good response to the intervention expressed by participants showing satisfaction and a wish to continue and expand activities. Literature is consistent with the findings of this study, showing that the commercialisation of NTFPs can provide a valuable contribution to the



livelihoods of rural and indigenous people (Cavendish 2003; Saxena 2003; Shackleton and Shackleton 2004; Shackleton *et al.* 2011b). There is little evidence, in this case, that NTFPs are poverty traps, but *C. wildii* is also unlikely to eradicate poverty. Instead, commercialisation can be useful in providing some level of livelihood security for marginalised groups such as the Himba. This research has demonstrated how this contribution is valued by the two communities and also how it can improve livelihood security through diversification.

The commercialisation process (Objective 1) has been discussed in Chapter 5 of this study; however the resilience of the NTFP enterprise as a long term income source remains to be deliberated. The enterprise is dependent on a market without which it cannot exist. It is a difficult market to access and requires a large amount of external support from NGOs in order to maintain buyer's interest and discover new buyers. Market interest depends on demand, fashion trends, traceability, reliable supply and the efficacy of the product, all of which will affect the price of the product; without a suitable price the enterprise will fail. A major area of concern is also how the enterprise will access markets through stringent international regulations that are expensive and difficult to overcome. Being able to maintain the standards and traceability required by European and other international markets will ultimately determine the long term success of this enterprise and will require a large amount of NGO and government support.

The future of the commercialisation process also depends on the institutions that bind together the enterprise, namely the conservancy and community forest management committee and the NGO. A failure of this framework will affect the functioning of the enterprise. As all profits from the OPF sales are channelled back into the conservancy and community forest, and the management committee is required to use the funds appropriately for communal benefit and overheads, it is critical that the committees remains functional. Ownership rights will become questionable if the community institution ceases to function as the legal rights to manage and utilise the plants is expressed through the community forest gazette and will not be applicable if the community forest entity no longer exists. Communities may continue to sell plant products if they organise themselves into harvester groups or associations and may garner government support if they adhere to the principles of CBNRM, but this will be much more difficult without the conservancy or community forest framework and organisation. The continuation of the community forest depends on the lawful

and proper management of the area by the management committee, and also depends on the government of Namibia through any changes it may make in the land use rights dictated in the CBNRM policy.

The implications of commercialising a traditionally used plant, such as *C. wildii* differ from those of a plant with no cultural value. When commercialising a plant of traditional or cultural value there is the risk that this use will be compromised and a cultural loss will be experienced, as people choose to sell the product rather than use it. In this study some participants stated that they discontinued using *C. wildii* resin when they had the option of selling it, but most said that due to such a small amount being needed for personal use and a large amount of the resource being available, they have continued using the plant in the same way. Although there are risks in commercialising a plant of traditional value, there are also cases where culture has been reaffirmed rather than lost. As many young Himba are discarding their traditional dress and opting to dress in modern styles and not use the red ochre and butterfat mixture, the associated use of *C. wildii* resin may be lost. In this case the commercialisation of the plant keeps it relevant in the society, meaning younger generations are exposed to its uses and may well retain the traditional knowledge of previous generations.

Results have also shown that the commercialisation of this plant may in some ways reaffirm other cultural practices, such as livestock farming. The enterprise allows the community to continue their traditional way of life while having a source of income to deal with challenges of modernisation and changing values and goals. As the Himba have increasingly modern aspirations they have had to adapt to a cash economy. This can mean moving into towns or cities in order to make money. Enterprises such as this enable them to continue with their traditional way of life, while having an income to access services such as healthcare, schooling and changing dietary requirements.

*Commiphora wildii* can be marketed for its cultural use by the Himba and can thus gain easier access to niche markets where it may be sold as a novelty product. There are also traditional knowledge implications for the sale of *C. wildii*. As Namibia is in the process of legislating for Access and Benefit Sharing, this is relevant. In anticipation of these laws IRDNC negotiated the communal benefit fee from the sale of *C. wildii* which acknowledges the traditional knowledge held by the entire community and provides compensation for the 'use' of this knowledge.

## 6.2 Recommendations

The implications of the commercialisation of *C. wildii* for the conservancy and community forest institution lie mainly in the income-generating potential of the sale of raw materials and the profit from the OPF. This enterprise is an opportunity to improve the communal benefit, which is the main objective of the conservancy and community forest. A benefit distribution plan is drafted each year to determine how to spend communal benefits accrued from various conservancy activities. It is recommended that the benefit distribution plan takes into account trade-offs that arise from the NTFP enterprise and mitigate them where possible, using profits from the OPF. This may include raising awareness over health issues from changing diets as well as alcohol abuse.

Changes in livestock use were an interesting impact identified during this research. An affirmation of the cultural practice of livestock farming was noted when respondents stated that many used the opportunity of an income to maintain or increase herd sizes. In theory, this could exacerbate ecological problems as livestock and wildlife place more pressure on sensitive grazing lands. It is recommended that research continues to investigate the changing pastoralist practices of the Himba and that holistic rangeland management as well as responsible herd sizes are continually encouraged (IRDNC 2011).

Research findings show that food security has been increased as many harvesters use their earnings to buy food, especially in times of drought or difficulty. To determine whether or not nutrition has been improved will require further research, but personal observations suggest that processed foods, high in sugar and oil are being bought so that diseases such as diabetes and heart disease may be a risk in the future. In addition to further research, awareness may be raised regarding healthy food options and the link between diet and disease.

Another threat to the sustainability of an enterprise such as this is in the continued support of the NGO. In this case, without the technical support of trained IRDNC staff, the enterprise may be at risk. The NGO plays a critical role in the functioning of the enterprise, specifically in the following ways;

- Pre-funding the sales of plant material at a conservancy level, using money from donors. This ensures that harvesters receive cash in hand as soon as they have delivered the material. This means they can plan to visit the clinic or buy food fairly

- quickly, without having to wait for buyers to make payments from far away.
- By offering technical support to the harvesters and the buying point managers, as well as training them.
  - By raising funds for the revolving plant fund, the building of the Opuwo Processing Facility as well as various storage buildings in the conservancy and at the OPF.
  - Accessing funding for the training of harvesters, buying point managers and the committee.
  - Transporting the plant material from the conservancies to the OPF.
  - Accessing markets through communication and negotiation with buyers.
  - Network with other players, such as PhytoTrade Africa, and the Indigenous Plant Task Team (IPTT), to support the trade of these products and offer expertise.

The continued support of the NGO is thus critical for the success of the enterprise. It is recommended that NGOs in this position develop a detailed exit strategy that can be implemented over time. This will rely on training selected individuals from the community to take over the day to day activities and management.

Although a local and regional market is developing, this will not be able to absorb all the production from the Opuwo Processing Facility, nor will it be the most profitable option. Overcoming the barriers to international markets and meeting the safety requirements of European Union countries is thus critical to the success of this enterprise. Securing a niche market can also greatly assist in predicting demand. This would enable better structuring of the harvesting activities to result in a small but steady income to the harvesters. As most of the operational costs are currently funded by donors and this funding will run out by June 2014, it is crucial and urgent that a financial plan along with a clear marketing strategy is developed (MCA 2013). Overcoming the barriers to overseas markets and securing a niche market will allow for an equitable and steady stream of benefits to members. Protecting the traditional knowledge of the Himba is integral to this enterprise. If a consistent and secure market is found then using the concept of fair and equitable benefit sharing as compensation for the custodianship of the resource and the knowledge, the Himba community may benefit as a whole and in doing so, livelihoods may become more secure.

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## Appendices

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## Appendix 1: Individual interview transcript

### Individual interview questions

#### 1. Information

Date:	26 January 2013
Interview number:	10B
Name of interviewer:	Bonnie Galloway
Name of translator:	Kakuu Musaso
Conservancy and place:	Orupembe - Otukuva

#### 2. Participant information

Name:			
Gender:		Marital status:	
Approximate age:		Himba or Herero:	
Harvester (y/n)		Role in Conservancy:	
Village where you live most of the time: Mostly Onjuva		Children:	

#### 3. Traditional knowledge and use focus

3.1	Do you harvest this species for your own use now? Can you identify it?
3.2	<p>Traditional use change (Omumbiri): If you harvest and sell for money, are you using less of the products for your own use?</p> <p>Do you feel there is less Omumbiri available for traditional use since the products are being commercialised?</p>

	<p>Are you harvesting more now that you can harvest for money,</p> <p>Are you harvesting in different places than before?</p> <p>Are you harvesting with different people than you used to before commercialisation?</p> <p>Do you harvest alone more or more in groups that before?</p>
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4. Commercial focus (Omumbiri)

4.1	Do you harvest Omumbiri to sell?				
4.2	How long have you been harvesting to sell?				
4.3	When do you harvest? <table border="1" style="margin-left: 20px;"> <tr> <td>Whenever there is an opportunity</td> <td>Only when you need to buy something</td> </tr> <tr> <td> </td> <td> </td> </tr> </table>	Whenever there is an opportunity	Only when you need to buy something		
Whenever there is an opportunity	Only when you need to buy something				
4.4	Why do you harvest?				

4.5	<p>Do you keep all the money that you have earned or do you give some/all away?</p> <table border="1" data-bbox="264 421 592 842"> <tr><td>Husband</td><td></td></tr> <tr><td>Wife</td><td></td></tr> <tr><td>Father</td><td></td></tr> <tr><td>Mother</td><td></td></tr> <tr><td>Sibling</td><td></td></tr> <tr><td>Children</td><td></td></tr> <tr><td>Other</td><td></td></tr> </table>	Husband		Wife		Father		Mother		Sibling		Children		Other															
Husband																													
Wife																													
Father																													
Mother																													
Sibling																													
Children																													
Other																													
4.6	<p>Please rank these pictures in the order of what you spend the most of your earnings on to what you spend the least on. Leave out the ones that you do not spend money on. See Appendix 5 for pictures.</p> <p>Record the order here:</p> <table border="1" data-bbox="264 1037 1401 1279"> <tr> <td>Food</td> <td>Schooling</td> <td>Alcohol</td> <td>Clinic</td> <td>Tobacco</td> <td>Livestock</td> <td>Savings</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Personal</td> <td>Debts</td> <td>Luxury</td> <td>Transport</td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>	Food	Schooling	Alcohol	Clinic	Tobacco	Livestock	Savings								Personal	Debts	Luxury	Transport										
Food	Schooling	Alcohol	Clinic	Tobacco	Livestock	Savings																							
Personal	Debts	Luxury	Transport																										
4.7	<p>Of your children how many attend school?</p> <p>Do you use money from harvesting to send them to school?</p> <p>Would they still go to school without this money from harvesting?</p>																												
4.8	<p>You have ranked ( ) as what you spend most of your harvest money on. Can you describe to me how this has changed your life?</p>																												

## 5. Gender

5.1	Do more men or more women take part in harvesting?				
5.2	Are men and women working together in harvesting?				
5.3	How do you feel about men and women harvesting together(advantages and disadvantages)				
5.4	Do men have more say over plant matters now that they also harvest?				
5.5	Who do you think plays a greater role in harvester-related decision-making at the conservancy level? Please Rank.				
	Men	Women	Committee	Harvesters	TA

## 6. Social impact

6.1	Has harvesting and selling plants caused any problems in the conservancy?
6.2	Has harvesting and selling plants caused any problems in this village?
6.3	How has harvesting and selling plants helped this village?

6.4	How would you say your life has changed from before you became a harvester for money to after?
6.5	Do you have any other comments?

## Appendix 2: Questions to facilitate focus group discussions

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### 1. Information

Date:	
Focus group number:	
Name of facilitator:	Bonnie Galloway
Name of translator:	
Conservancy and place:	

### 2. Record of participants

	Name	M/F	Position/role in conservancy
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14.			
15.			

3. How do you think harvesting of Omumbiri has changed from before commercialisation to now?

4. How do you think having an extra income has helped the community?



5. Describe any negative situations that have occurred from the extra money? I am specifically referring to conflict between men and women, between the committee and the staff and amongst harvesters.
6. What are the problems or benefits of having both men and women harvesting at the same time?
7. How has commercial harvesting been good for this conservancy and this community?
8. How has commercial harvesting been detrimental to this conservancy and this community?
9. How do you feel about harvesting *C. wildii* and *S. mossamedense*? Is there a sense of pride over the Omumbiri that is not there for the Okamuti? Do you prefer to sell the Okamuti and keep the Omunbiri for your own use?
10. Any other comments?

**Questions to lead the focus group discussions following the interviews will be developed in the field. This will be done so that issues that are raised during the interviews can be discussed during these groups. Participants can raise any concerns or issues that they did not think of during the interviews at this time.**

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## Appendix 3: An example of harvester by-laws

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### ORUPEMBE

#### Rules for harvesting omumbiri:

1. Only conservancy members are to harvest.
  2. Both men and women can harvest.
  3. Children under 18 are not to sell resin.
  4. Resin should be as clean as possible and free of sand and grass.
  5. Resin should be collected in bags provided and be separate drops as far as possible
  6. No cutting or breaking of omumbiri trees is allowed.
  7. Resin will not be weighed if there is no money in the cash box.
  8. All harvesters to register with the conservancy as an omumbiri harvester and get a card and a number.
  9. Harvesters are only allowed to sell omumbiri to conservancy representatives.
-



Photos: Clockwise from top left; harvested *C. wildii* resin, a harvester in Puros, Tamarind Nott's *Rare Scent* line of cosmetics produced in Namibia using *C. wildii*, a Himba village in Puros.