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**Namibia's National Forestry Policy on Rural Development – A
Case Study of Uukolonkadhi Community Forest**

MSc. Thesis

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DIPLOMA THESIS ASSIGNMENT

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Thesis title

Namibia's National Forestry Policy on rural development- A case study of Uukolonkadhi Community Forest

Objectives of thesis

- 1.To assess how the Namibia's National Forestry Policy influences community forestry resources and rural communities' benefits.
- 2.To evaluate how the Namibia's National Forestry Policy can be framed to promote rural development for Uukolonkadhi community forest.
- 3.To recommend necessary amendments of the Namibia's National Forestry Policy to keep the balance between sustainable and socio-economic development with regard to community forestry.

Methodology

Reference books and journals will be reviewed, the Namibia's National Forestry Policy - review and theoretical approaches, choosing an appropriate methods of community forestry benefits valuation. interviewing community forest residents and forestry experts, an influence of the Namibia's National Forestry Policy will be described. After that data will be collected and the community forestry benefits will be assessed. Results will be discussed and possible amendments of the Namibia's National Forestry Policy will be proposed.

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DECLARATION

By submitting this thesis, I hereby certify that the entirety of the work presented in this thesis entitled *“Namibia’s National Forestry Policy on Rural Development – A Case Study of Uukolonkadhi Community Forest”* is, to the best of my knowledge and belief, original, except as clearly acknowledged in the text and specified with due reference to the literature review. I further declare that the document has not been submitted, either in whole or in part, for a master’s degree at this university or any other institution.

In Prague on: 22.04.2014

.....
Signature: Nikodemus Andreas

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ABSTRACT

Forest resources still play a major role in sustaining livelihoods in rural communities, most especially in developing countries. Namibia's community forests have much local entrepreneurship potential to combat rural poverty and contribute to rural development. Keeping the balance between the two chief objectives of the national forestry policy; conservation and socio-economic development is of vital importance in combating both deforestation and rural poverty. That is why this study primarily aimed to investigate the influence of Namibia's national forestry policy on forest resources valuation and rural development. Forestry and environmental experts and local residents were interviewed. Forest production outputs for 5 main products were evaluated from 2009-2013. The results demonstrate that Uukolonkadhi community forest production outputs are dramatically declining, especially after the project of Community Forest Namibia ended in 2010. The results also show that lack of governmental, non-governmental organizations and donors' supports, low, erratic and irregular rainfall and urbanization are the main challenges community forestry economy is facing. The SWOT analysis indicates that good institutional arrangement of community forestry and active community participatory are some of the pillar strengths of the community forestry programme. The study concludes that there are several research gaps such as statistical information of forest conditions and the degree of poverty within rural communities. Motivating and supporting rural community forests in any possible manners to initiate small-scale entrepreneurship and create jobs for themselves, this will give a ground to alleviate rural poverty and combat deforestation.

Key words

Forestry policy, valuation of forestry outputs, production outputs, forest resources

ABSTRAKT

Lesní zdroje stále hrají zásadní roli při udržitelnosti životy ve venkovských komunitách, zejména pak v rozvojových zemích. Namibijská lesní komunita má velký lokální podnikatelský potenciál, aby bojovala s venkovskou chudobou a podílela se na rozvoji venkova. Je třeba pečovat o vyváženost mezi dvěma hlavními cíly národní lesní správy ochranou lesa a sociálně ekonomickým vývojem, což jsou mimořádně důležité veličiny při boji jak s odlesňováním tak s venkovskou chudobou. Primárním záměrem této práce je tedy popsat vliv namibijské lesní správy na oceňování lesních zdrojů a na venkovskou chudobu. Jako materiál pro analýzu těchto jevů byl použit výzkum formou dotazníkového šetření. Dotazování byli odborníci na environmentální a lesnickou problematiku a také místní obyvatelé. Byly také hodnoceny ekonomické výsledky pěti hlavních produktů lesnické výroby v letech 2009–2013. Závěry demonstrují, že výroba Uukolonkadhi community forest dramaticky klesá, zejména poté, co byl v roce 2010 dokončen projekt Community Forestry Namibia. Výsledky také ukazují nedostatek podpory ze strany vlády, sponzorů a nevládních organizací. Také nízké, kolísavé a nepravidelné srážky a hlavní problém, kterému ekonomika lesnické komunity musí čelit, je postupující urbanizace. SWOT analýza však ukazuje dobré institucionální uspořádání lesnické obcekomunity a silnými stránkami společenského lesnického programu je také aktivní zapojení příslušníků komunity. Bylo zjištěno, že existují mezery v některých výzkumech, jako je například statistická informace o stavu lesů a stupeň chudoby v rámci lesnických komunit. Výchozím bodem pro zmírnění venkovské chudoby a pro boj s odlesňováním je tedy motivace a podpora lokálních lesníků jakýmkoli možným způsobem tak, aby mohlo být zahájeno drobné podnikání a vytvořena nová pracovní místa.

Klíčová slova

Lesnická politika, oceňování lesních výstupů, výrobní výstupy, lesní zdroje

ACRONYMS

AIDS	Acquired Immune Deficiency Syndrome
CBD	Convention on Biological Diversity
CBNRM	Community-Based Natural Resource Management
CDPs	Community Development Projects
CF	Community Forestry
CFN	Community Forestry Namibia
CMC	Conservancy Management Committee
CZK	Czech Koruna
DED	German Development Service
DoF	Directorate of Forestry
EA	Environmental Assessment
EEP	Energy and Environment Partnership
EUR	Euro (€)
FAO	Food and Agricultural Organization of the United Nations
FINNIDA	Finnish Development Agency
FMC	Forest Management Committee
GDP	Gross Domestic Product
GNI	Gross National Income
HIV	Human Immunodeficiency Virus

KfW	German Development Bank
MAWF	Ministry of Agriculture, Water and Forestry
MET	Ministry of Environment and Tourism
NACSO	Namibia Association of CBNRM Support Organization
NDP3	The third National Development Plan of Namibia
NDP4	The fourth National Development Plan of Namibia
NFP	National Forestry Policy Programme
NFSP	Namibia Forestry Strategic Plan
NGOs	Non-Governmental Organizations
NNF	Namibian Nature Foundation
NRM	Natural Resources Management
N\$	Namibian Dollars
NTFP	Non-Timber Forest Products
NWFP	Non-Wood Forest Products
ORC	Omusati Regional Council
PES	Payment for Environmental Services
REDD	Reducing Emissions from Deforestation and Degradation
SFM	Sustainable Forest Management
SADC	Southern African Development Community
SWOT	Strengths, Weaknesses, Opportunities and Threats

TAs	Traditional Authorities
TB	Tuberculosis
UCF	Uukolonkadhi Community Forest
UN	United Nations
UNAM	University of Namibia
UNEP	United Nations Environment Programme
US\$	United States Dollar
UTA	Uukolonkadhi Traditional Authority

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CHAPTER ONE: INTRODUCTION

1.1 General introduction

The role of forests in rural communities' development and poverty reduction is a topic that is rarely discussed. That is why the economic role of many rural industries, most especially through community forestry, in poverty reduction in communal areas of Namibia is still not well-known (Parviainen, 2012). Globally, forests form livelihood security for the rural poor; some poor (1.6 billion) people worldwide rely on forests resources for their everyday lives (World Bank, 2001 and Parviainen, 2012).

After gaining independence in 1990, Namibia started providing unique opportunities for Environmental Assessment (EA) to contribute towards sustainable and economic development (Figueira and Tarr, 1990). The forestry sector developed two policy documents after independence; namely Namibia Forestry Strategic Plan (NFSP) in 1996 and forestry policy in 2001. One of the main aims of NFSP was the development of community level natural resources management strategy, which gives a mandate to communities to manage their own forest resources and to formulate forest management bodies and conservation mechanisms.

As a solution to the vast and ongoing deforestation in Namibia, community forestry is a new mode of forestry governance (Schusser, 2012). This programme is a management tool which, at the same time supports rural people who heavily depend on natural resources than those who are residing in urban areas. Owing to this reason, it is therefore crucial to reinforce the management of community forests on which rural people mostly make their living from (Parviainen, 2012). Particularly, this has a great power on Namibia's stated vision 2030 and national development plan of which the main goal is to improve the life quality of Namibian people to the level of their counterparts in the developed world (Namibia vision 2030, 2004). This mainly, does not only guarantee sustainable economic growth, but also management rights and equal benefits of the resources.

Namibia is endowed with a variety of natural resources, but forestry is a huge concern due to degraded environments and the desert influenced climatic conditions. Moreover, it performs comparatively well in terms of landscapes and ecosystems management, thus ranking as one of the countries with the highest performance in sub-Saharan Africa at 81 out of 196 states on earth (Bertelsmann, 2012). However, whether the Namibia's national forestry policy has positively or negatively contributed to rural economic development as part of poverty reduction strategies in the past few years is the million dollar question that requires an immediate answer, most especially in the case of community forestry.

Unfortunately, only few studies have been carried out on the economic impacts of community forests in developing countries, (Dahal, 2006). As a result, there is a lack of reliable community level economic data on the influence of the Namibia's national forestry policy on rural development.

1.2 Problem statement

Namibia's rural communities have much potential for forest oriented entrepreneurship and development opportunities. However, economic value for most rural industries, most especially community forestry oriented; in poverty alleviation at community level is still not well considered in Namibia (Parviainen, 2012). Consequently, the Namibia's national forestry policy tends to focus more on sustainability and resources conservation, while socio-economic development is neglected. It is of paramount importance for the policy makers to understand that the little that is available needs sound management, yet sustaining rural livelihoods. However, this is only possible when rural communities that are in closeness with the nature are satisfied with both management policies and community forest resources benefits.

If community people get satisfactory benefits from community forest resources, they will be more encouraged to manage the forests in sustainable manners rather than over-utilizing and degrading them. This can be achieved through both financial and technical supports from the government, Non-Governmental Organizations (NGOs) and other existing and potential

forestry stakeholders. Community residents can improve their livelihoods through initiations of both individual and group forest based enterprises. However, problems like lack of funds, inadequate technical supports and communities training and awareness campaigns are some of the major setbacks. Once these are achieved, it will certainly enhance rural communities' benefits such as jobs creation and consequently, contribute to rural poverty alleviation.

A number of local people and several forest experts claim to be satisfied with the Namibia's national forestry policy performance, but the whole truth is that much still needs to be done to improve rural livelihoods. The programme of Community Forestry (CF) has been unable to directly reach the community households, individuals and group enterprises sufficiently or when reached, it is with lesser impacts. That is why challenges like poverty and the high rate of unemployment in rural areas are still prevailing (Mwinga, 2012).

This, on the other hand, can only be solved if the satisfaction of the community households is known and actively taken into account. It is for this reason this study aims to critically investigate the impacts of the Namibia's national forestry policy upon rural livelihoods of the forest resources dependent people and rural development with regards to community forests benefits and production outputs.

1.3 Rationale of the study

This study chiefly aimed to investigate the influence of the Namibia's national forestry policy on rural communities' development by the means of community forestry programme, whereby community people have both utilization and management rights over community forests resources. The study also intended to assess to what extent the Uukolonkadhi community forest satisfies the community livelihoods in terms of enhancing local people to access forest-based entrepreneurship opportunities yet complying with sustainable development. With absolutely no doubt, Namibia needs rural economic growth and diversification to achieve full industrialization and national development. Therefore, the outcome of this study will be useful in helping the policy makers in adjusting and formulating the national forestry policy to

equally focus on both forestry resources conservation and socio-economic development, which will eventually maximize the outputs and benefits for community forests residents by initiating and supporting enterprises development to improve rural livelihoods. Furthermore, the findings of this research will also contribute to the process of addressing other top socio-economic challenges among rural communities such as unemployment and poverty.

1.4 The scope of the study

This study is limited to one selected of the 13 gazetted community forests of Namibia, Uukolonkadhi Community Forest (UCF). UCF is situated in Uukolonkadhi in Omusati Region of North-Central Namibia and under the control of MAWF through DoF in cooperation with Uukolonkadhi Traditional Authority (UTA) in Tsandi constituency. The study area was selected based on a set of criteria as outlined in Chapter 3 of this study paper.

1.5 Objectives and key research questions

The primary aim of this study was to investigate the influences of the Namibia's national forestry policy on rural development. The following are the specific objectives of the study:

1. To assess how Namibia's national forestry policy influences community forestry resources and rural communities' benefits
2. To evaluate how the Namibia's national forestry policy can be framed to promote rural development for Uukolonkadhi community forest
3. To recommend necessary amendments of the Namibia's national forestry policy to keep the balance between sustainable and socio-economic development with regard to community forests

The research was based on the following key questions to address the above-mentioned objectives:

1. How did the Namibia's national forestry policy contribute to rural development for UCF in the past 5 years (2009-2013)?
2. How many jobs created, and how much production outputs generated in monetary units in UCF from 2009-2013?
3. What are the opinions of the community, forestry and environmental experts on the amendments of the national forestry policy in order to promote rural development and poverty reduction?

1.6 Structure of the thesis

This thesis is structured as follows:

Chapter 1: (This chapter) Introduction and overview

Chapter 2: Literature review of the study

Chapter 3: Background of the study site and methodology

Chapter 4: Presents research results

Chapter 5: Discussions of the results in detail

Chapter 6: Conclusion and possible recommendations for the Namibia's national forestry policy

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter embraces all the paper works and correlated researches as well as the studies in line with this study. The chapter contains all the significant researches that have been conducted previously by other researchers in the similar perspectives. Literature review was a continuous course during the whole process of the research. The sources reviewed contain reference books, thesis, journals, leaflets and also materials retrieved from internet. Additionally, this chapter also gives the general description of Namibia in terms of geographical features, social and economic statuses.

2.2 Namibia's background

2.2.1 Geographical features

The Republic of Namibia lies in the southern part of the Atlantic Ocean, which makes it a coastal country, with the coastline extending about 1,572 km from north to south (Hainduwa, 2013). Therefore, the western border of Namibia is formed by the Atlantic Ocean. Its bordering countries are Botswana to the east and South Africa to the south and east; Angola and Zambia to the north (Figure 1). Namibia is located between the latitudes of 17 degrees north and 29 degrees south. The total surface area was last reported to be 825,418 km² (World Bank, 2012).



Figure 1: The position of Namibia with its bordering countries
 Source: <http://www.yourchildlearns.com>.

The country is divided into three main ecological zones: (i) the Namib Desert to the west, (ii) the Kalahari Desert to the east and (iii) the Central Plateau that covers 10%, 20%, 70% of the surface areas respectively (Hecht, 2010). Namibia is divided into 14 administrative regions¹ (The villager, 2013). These regions vary greatly in their economic, socio-cultural and environmental dimensions (UNEP, 2012). The population size of Namibia was latest recorded at 2.3 million (Trading Economics, 2012). The rural population accounts for 67%. The present population growth rate of Namibia is double its population in 2005-2010 which was recorded to be 1.87 million (UN, 2010). According to Bertelsmann (2012), the life expectancy in Namibia is 62 years. Namibia is ranked as an Upper Middle Income Country with a Gross National Income (GNI) of US\$4,200 by the World Bank Atlas method. These statistics are revealed by the GNI coefficient of Namibia for 2008 which is based on per capita (World

¹ The 14 administrative regions of Namibia are Erongo, Hardap, Karas, Kavango West, Kavango East, Khomas, Kunene, Ohangwena, Omaheke, Omusati, Oshana, Oshikoto, Otjozondjupa and Zambezi (formerly known as Caprivi) (ORC, 2010).

Bank, 2009 and Kanyenze and Lapeyre, 2012). In comparison to other African countries, Namibia has reached a relatively high level of development with a GDP per capita income of Namibian dollars (N\$) 6,410.00 which is equivalent to US\$591.924 (Bertelsmann, 2012).

2.2.2 Namibia's natural conditions and vegetation distribution

Most of Namibia's climate is characterized by semi-arid to hyper-arid conditions and highly variable rainfall; though small stretches of the country (about 8%) are classified as semi-humid or sub-tropical (Newsham and Thomas, 2009 and Odendaal, 2011). Despite being a dry country, due to its large size, Namibia has different vegetation areas that also include woodlands and forests. However, Namibia does not have true forest, therefore forest resources are mainly defined as woody plants that are found in woodlands and shrublands (savannas) (Barnes *et al*, 2005). Sola (2011), describes Namibia's vegetation types as mopane savanna, semi-desert and savanna transition, and dwarf shrub savanna. Namibia's natural broad-leafed forests and woodlands are located in the northern and north-eastern parts of the country, and almost no planted forests exist (Parviainen, 2012). Namibia is situated between two deserts; Namib Desert stretching along its west coast and Kalahari Desert borders which borders its eastern and southern neighbors, Botswana and South Africa.

The country rainfalls are highly variable, both spatially and temporally from 100 mm in the Namib Desert to 500-700 mm in the north-east (Kuhnenn, 2003). Therefore, water is the most limited resource in Namibia. The Namibian farming systems are dominated by livestock production (Kuhnenn, 2003). However, subsistence farming also plays a major role especially in the North-Central regions². Owing to poor climatic conditions, geographical location within the subtropical atmospheric high pressure zone contribute to its aridity, the country experiences low and unpredictable annual rainfall, soils infertility and a high rate of evapo-transpiration. All these reasons validate the fact that Namibia is reputed to be highly prone to climate change effects. Namibia is subject to air movements driven by three key climate belts: (a) the Intertropical Convergence Zone, (b) the Subtropical High Pressure Zone

² The North-central administrative regions of Namibia are Omusati, Ohangwena, Oshana and Oshikoto.

and (c) the Temperate Zone. In the southern-most, it is the Inter-tropical air movements that bring moist air which results in the rainy season usually from October to April every year. Of the three air movement systems, Subtropical is the most dominant which is prevalent in winter months. Unquestionably, it is for Subtropical dominance Namibia is a dry country (Newsham and Thomas, 2009).

The country's forest and woodland areas cover 10% and 50% of the country's total surface area, respectively, while the shrub-land and desert area cover the remaining 40%. About 4,000 plant species have been identified in Namibia, of which 10% are woody trees, (Mendelsohn and Obed, 2005). The vegetation distribution is poor and varies from place to place, with more woody trees concentrated in the eastern and part of north-central areas (Selanniemi *et al*, 2000). Namibia has poor vegetation growth rate due to infertile soils, harsh climate, wildfires and human activities (Hainduwa, 2013).

2.2.3 Development of the Namibia's forestry policy

Before going into details of the national forestry policy, it is important to clarify that forests play an integral role not only in poverty reduction and economic development, but in environmental welfare as well. The condition of forests has a great influence on the other environmental concerns. In Namibia, deforestation is one of the major environmental concerns, hence it is crucial to enforce laws and policies to alleviate this continuing problem. Ndeinoma (2011) defines a policy as the way in which the government uses its programmes of activities aimed at achieving its chosen objectives. A policy can also be defined as a course of actions adopted and pursued by a government, ruler, and political party to achieve specified objectives.

In most countries of the world, forest products are in many cases harvested and traded illegally (Sola, 2011). Hence, forest policies are of chief importance. Namibian policies (including forest policies) are developed or derived from the parliamentary constitution. The Namibian constitution proclaims its commitment to sustainable development through several clauses

including Article 95: Promotion of the welfare of the people. This deals with environmental protection and natural resources management (Government of the Republic of Namibia, 1990 and MAWF, 2004).

Namibia is entirely different from other Southern African Development Community (SADC) countries in a sense that it does not have a long history of forest management (Sola, 2011). Additionally, its forestry sector was neglected in terms of policy and institutions until after independence (Mogaka *et al*, 2001). However, it is one of the few countries to be highly complimented for developing forest policy and passed an Act immediately after independence to protect and safeguard forests management and utilizations. The first policy was prepared in 1992 and resulted in the establishment of the Directorate of Forestry (DoF), in the Ministry of Environment and Tourism (MET) (MAWF, 2011, Kojwang, 2000, Mogaka *et al*, 2001, Louw, 2007 and Sola, 2011).

The Namibia's national forests policy was endorsed by the constitutional body; revised and approved by the cabinet on 27 November 2001 (Louw, 2007). According to FAO (2010), the Namibia's forestry policy is divided into four operational categories namely; forestry policy, forestry policy statement, national forestry policy programme (NFP) and law (Act or code) on forest (Table 1).

Table 1: FRA 2010 categories and definitions
Source: (FAO, 2010)

Term	Definition
Forestry policy	A set of orientations and principles of actions adopted by public authorities in harmony with national socio-economic and environmental policies in a given country to guide future decisions in relation to the management, use and conservation of forest and tree resources for the benefit of society.
Forestry policy statement	A document that describes the objectives, priorities and means for implementation of the forest policy.
National forestry programme (NFP)	A generic expression that refers to a wide range of approaches towards forest policy formulation, planning and implementation at national and sub-national levels. The national forestry programme provides a framework and guidance for country-driven forest sector development with participation of all stakeholders and in consistence with policies of other sectors and international policies.
Law (Act or Code) on forest	A set of rules enacted by the legislative authority of a country regulating the access, management, conservation and use of forest resources.

Forestry policy and legal framework-Table T14: Reprinted from FAO, 2010: page 7, Rome: Available at: www.fao.org

As it is in many countries in the world, the forests policy of Namibia is structured and operates in accordance with Food and Agricultural Organization of the United Nations (FAO) regulations. The Namibia's forestry policy was revised in 1998 following the regulation of the NFSP in 1996 (Kojwang, 2000, Mogaka *et al*, 2001 and Sola, 2011). Like any other national policies, the Namibia's forestry policy operates based on a set objectives and guiding principles. The objectives are listed below according to Louw, 2007 and Sola, 2011:

- a) Resolve rural development with biodiversity conservation through the empowerment of farmers and local communities to manage forest resources in sustainable manners.
- b) Improvement of the yields and benefits of the national woodlands by means of research and development, protection, silvicultural practices application and advancement of mandatory economic support schemes,
- c) Establish motivating and interesting conditions to attract investments in small and medium industry based on both wood and non-wood forest raw materials,
- d) Device schematic land-use approaches including multi-use conservation areas, protected areas, agro-forestry and a range of other approaches designed to produce forestry global benefits.

Apart from the objectives, the policy also has its well defined main guiding principles as listed below:

- a) Assignment of effective property rights for sustainable forest management
- b) Regulations
- c) Forest research
- d) Support to overcome lack of ability
- e) Gender equity
- f) Forest management
- g) Education and training
- h) Pricing of forest utilization
- i) Multi-disciplinary approach to policy implementation

Namibia formulated its forest Act between the years 1995 and 1997, to revoke the Act of 1968 and afterward amended it to the present Forest Act of 2001³ which came into effect in 2002 (Sola, 2011 and Maryundi *et al*, 2009). The objectives and guiding principles for the Namibia’s national forests policy perfectly fit the environmental conditions of the country.

Other countries, South Africa, for example, have similar core forestry policy objectives; to promote the sustainable utilization of forests for environmental, economic and educational purposes (Sola, 2011). However, in Namibia’s case, an argument is on the applications and fulfillment of, most especially, objectives (b), (c) and (e). Also, a gigantic question is on some of the guiding principles like forest research, education and training as there are no definite forestry study programmes in any of the tertiary institutions. The University of Namibia (UNAM), Ogongo campus, (formerly known as Ogongo Agricultural College) was the only tertiary institution that has been offering specific training courses in forestry (Louw, 2007). Unfortunately, the forestry faculty at Ogongo campus has been changed to a broad natural resource management study programme (UNAM, 2011). As a result, the number of forestry graduates has dropped, which consequently affects the number forestry sector staff (Table 2).

Table 2: Number and qualification of staff in Headquarters and in decentralized offices
Source: (Louw, 2008)

Year: 2006					
Staff	HQ	Decentralized	Total	% > 50 years old	% of female
Master degree and above	2	2	4	1	50
BSc degree – University level	8	6	14	0	42.8
Technical staff (school)	3	57	60	3	16.1
Forest guards	2	40	42	0	23.8

Of course, true forests do not exist in Namibia, but the woodlands and little forests that are available need to be vigorously managed to promote sustainable and socio-economic development. Moreover, all these require better qualified forestry personnel to facilitate forestry research and assessments that will eventually influence the policy effectiveness. There

³ The Namibian Forest Act (No. 12 of 2001), as amended by the Forest Amendment Act (No. 13 of 2001) is the law through which the Forest Policy is implemented. Basically, the Act stipulates how forest resources may be used and the responsibilities of the users (Sola, 2011 and Maryundi *et al*, 2009).

is huge need of research to be done on the forest resources availability and socio-economic development potentials.

2.2.4 Forestry funding and donors

Investments by private sectors in Namibian forestry are limited; as a result the sector is financed chiefly by the government and some donor agencies. However, 17 years after independence, both the government and donor organizations resources have been decreasing, making it even more challenging to improve the forest sector (Louw, 2007). Most of the donors funding forestry projects and research in Namibia are international, such as Finland through Finnish Development Agency (FINNIDA). The German Development Service (DED) and the German Development Bank (KfW) are the main sponsors for the project of community forests in Namibia (CFN, 2008). If forest resources and their management are well valued, funded and harnessed they could yield enough revenues for forestry development in Namibia (Kojwang and Chakanga, 2001).

2.2.5 Forestry sector's contribution to the national income

Generally speaking, it is accepted that financial considerations are part of the most crucial factors that greatly influence the implementation of sustainable forest management (Kojwang and Chakanga, 2001). Again, this obviously impacts socio-economic development, and accordingly, the forestry sector's contribution to the gross income. Louw (2007), reports that in 2007 the forest revenue collected by the DoF was about N\$ 420,000 (US\$ 52,200), compared with a budget for the Directorate of N\$ 14,849,000 (US\$ 1,845,500).

Additionally, the directorate receives a significant amount of funding from foreign donors. The first estimate on forestry sector's contribution to the national economy is approximately N\$ 1.2 billion, which is about 3% (about US\$ 14,183,784) (Louw, 2007 and Parviainen, 2012). From the consumption point of view, it was reported in 2001 that the use of non-timber resources is remarkably high in Namibia, with the sum values of US\$ 180 million compared to

timber products (Mogaka *et al*, 2001). Namibia is a wealthy and economically well-off country, however the forestry sector is not well considered. As a result even its investments and funds distribution is not that well-thought-out.

2.2.6 The outlook of the role and objectives of Community Forestry in Namibia

Almost half of Namibia's land is freehold which makes up 46%, but communal land covers the bigger portion of 36% compared to 18% of state land, and 17% of protected areas (Turpie *et al*, 2010). The majority of the communal land is located in the northern part of the country. In the Republic of Namibia, a Community Forest (CF) by definition is an area in the vicinity of communal lands for which local communities are mandated to manage and utilize forestry resources, woodlands and other types of natural vegetation in accordance with the requirements of the Forest Act No. 13 of 2005 (CFN, 2008).

The programme of CF has been implemented in both developed and developing countries as long ago as in the 1980s (Wood, 2013). CF chiefly pursues to bring areas of forest lands under the governance of the community people, with the twin goals of meeting local production needs and combating deforestation (Bhattarai and Dhungana, 2005). According to Parviainen (2012), in local communities the community forests are managed in accordance with Forest Management Plans (FMPs) and community forest guidelines. Community forestry management is directed by sustainable management principles. Hence, it should, by all means not deplete but rather conserve and promote the resource base and encompasses the equal benefits sharing among all local inhabitants (Mbapaha, n.d).

The programme of CF empowers local people to take responsibilities to sustainably manage forest resources (CFN, 2008). In the United States and other countries, the CF programme has been more successful when NGOs support private landowners and communities, and less successful when communities attempt to carry out the management activities on their own (Wood, 2008). This is because whenever there are needs for significant poverty reduction ecosystems degradation occurs, and redistribution of benefits and costs may not occur fairly if

the management is not active. Therefore, the Forest Management Committee (FMC) handles fairness and equity in the distribution of net benefits within the CF (Parviainen, 2012).

Worldwide, there is a growing desire to combat deforestation and forest degradation and to promote conservation and Sustainable Forest Management (SFM). The objectives for the forestry sector in Namibia's fourth National Development Plan (NDP4) include close integration of community forestry programme with other Community-Based Natural Resource Management (CBNRM)⁴ initiatives. According to Schusser, 2012, the objectives of CBNRM are in line with the national goals of environmental and ecological welfare, rural economic development, poverty alleviation and local job opportunities. In addition, CBNRM has been approved by the United Nations to be a mean of sustainable development (WCED, 1987). The programme of CF is one of the powerful tools of CBNRM throughout the world. This is due to the fact that forests are one of the most significant, though endangered natural resources (Wood, 2008).

In Africa, CBNRM has been adopted by a number of countries, and is particularly common in the southern part of the continent, for instance in Zimbabwe, Namibia, Malawi, Zambia, South Africa, Mozambique and Tanzania, as well as Botswana. The central engine of CBNRM is ecotourism that brings lasting economic gains to local communities (Lepper and Geobel, 2010).

The DoF believes that community forestry, and CBNRM in general, have a great potential to help communities to achieve their own goals and to gain better control of their resources (CFN, 2008). In other countries, Mexico for example, the project of community has been fruitful at both local and global markets due to governmental support (Wood, 2008). Namibia has 42 community forests guided by the Forest Act (Act No. 13 of 2005). The gazettelement of the first 13 community forests of Namibia was finalized in 2006 (Parviainen, 2012).

⁴Namibia's National CBNRM programme is an effective project cooperatively undertaken by the government and non-governmental institutions, community-based organizations, communities and several development stakeholders. The programme targets to empower to local communities to manage, use and equally benefit from wildlife and other available natural resources sustainably. Additionally, the project aims to link conservation with rural development by enabling and facilitating farmers to generate financial benefits from sustainable wildlife utilization and from eco-tourism.

According to FAO (2010), Namibia had only 7 community forest before 2005, but the number has tremendously increased afterwards (Table 3).

Table 3: Namibia's community forest reserves
Source: (FAO, 2010)

Name of the area under management	Total area covered in ha
<u>Before 2005</u>	
Okongo Community Forest	75000
Uukwaludhi Community Forest	148441
Ukolonkadhi Community Forest	110417
Ongandjera Community Forest	121826
Oshampula Community Forest	1070
Ohepi Community Forest	5180
Ndiyona Community Forest	60000
<i>Sub-total</i>	<i>521934</i>
<u>After 2005</u>	
Ncumcara community forest	15217
Ncaute community forest	12000
Ncamangoro community forest	26322
Mbeyo community forest	41079
Hans kanyinga community forest	27667
Cuma community forest	11500
Likwaterera community forest	13800
Gcwatjinga community forest	32000
<i>Sub-total</i>	<i>179585</i>
Total	701519

2.2.7 Rural communities' poverty review

Many authors confuse poverty and industrialization. There are thousands of reports that rural communities are generally poorer than urban ones. To some extent, it is true, but not always. For instance, in the case of Namibia, there are some people living in towns under extreme poverty. Again, the same situations can be found in rural areas. Central Bureau of Statistics (2011) indicated that poverty is more devastating in the northern regions of Namibia than elsewhere. Arguably, it depends on the definition one gives to poverty. For instance, most of the rural people of Namibia are subsistence farmers. In that way, they have lower daily expenditures compared to those who live in urban areas. At the same time, the percentage of employment in urban areas is higher than in rural areas. Thus, for one to define poverty there is a whole lot of aspects to carefully take into account. However, a review of poverty and

inequality in Namibia (2008), reported that the incidents of poverty based on expenditures have high percentages in rural areas than in urban ones (Table 4).

Table 4: Incidences of poverty by locality of household, 2003/2004
 Source: (A review of poverty and inequality in Namibia, 2008)

	Total	Urban	Rural
■ Poor	27.6%	12.0%	38.2%
Severely poor	13.8%	6.0%	19.1%

Another factor contributing to rural poverty is national blindness, poor valuation of forest resources and ignorance to entrepreneurship opportunities and business ventures. Namibia's economy is heavily reliant on its natural resources (Turpie *et al*, 2010). Interestingly, rural communities are more in closeness with the natural resources than urban residents. Hence, there is a high probability for poverty alleviation in Namibia's rural communities if only policy makers, Traditional Authorities (TAs) and local people are to be made aware of these potentials. Also, there is a huge need for both technical and financial supports.

Poverty varies significantly among the administrative regions of Namibia. Additionally, incidents of poverty were demonstrated high mostly in the northern regions like Kavango, Ohangwena, Omusati and Oshikoto (Poverty Dynamics in Namibia, 2010). These are some of the regions with the highest percentages of rural populations (Figure 2).

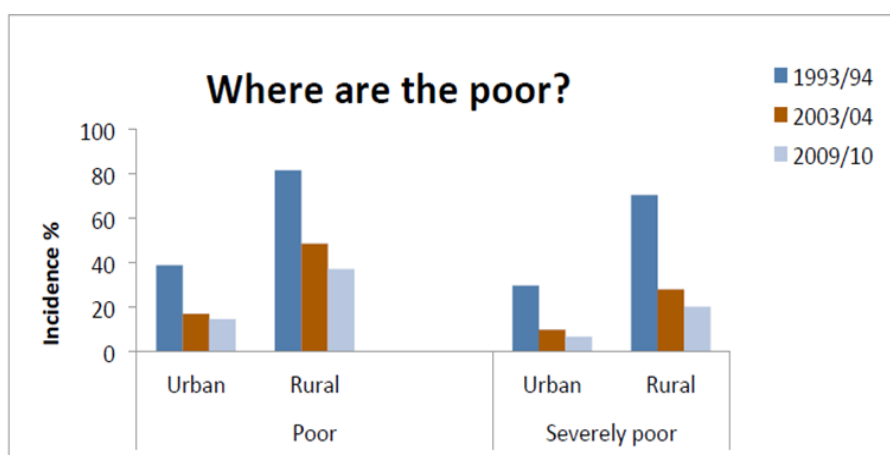


Figure 2: Rural and urban poverty levels (1993/1994, 2003/2004 and 2009/2010)
 Source: (Poverty Dynamics in Namibia, 2010)

Inequality and poverty endangers social, national harmony, and democracy. Thus, it is part of Namibia's long-term development objective to fight inequality and poverty (A review of poverty and inequality in Namibia, 2008). If Namibia is to meet its stated Vision 2030 and national development plan target, rural poverty reduction is very essential.

2.2.8 Namibia's Community Forests and rural poverty alleviation

In both the industrialized and developing parts of the world, a number of evidences still demonstrate that the poor and marginalized lack access to justice, especially environmental justice (Ruppel, 2010). This, in a way, impedes development in rural areas, in particular. The reduction of poverty and inequality remains an overarching priority for the government of Namibia (A review of poverty and inequality in Namibia, 2008). Being ranked as an upper middle income country, Namibia's economic growth is estimated to have slowed to 4.2% in 2011 from high growth of 6.6% in the preceding year (Namibia's economy outlook, 2012). However, Namibia's real Gross Domestic Product (GDP) growth was expected to remain moderate at around 4.7% in 2012.

Namibia faces numerous socio-economic challenges such poverty, an ever-increasing and higher rate of unemployment, inadequate capacity building, low levels of industrialization, poor economic growth and the "Human Immunodeficiency Virus and Acquired Immune Deficiency Syndrome" (HIV/ and AIDS) pandemic and other communicable diseases such as Tuberculosis (TB) and Malaria all contribute to the significant increase of mortality rates and the decline in life expectancy (NDP4, 2012). Parviainen (2012) stressed that in Namibia HIV/AIDS must be taken into account within the context of poverty. HIV/AIDS pandemic has seriously aggravated the situation and constitutes a unique threat to the country's economy and development (Bertelsmann, 2012). It affects mostly young adults who belong to the production segment of the nation. Poverty prevails especially in the rural households, of which 60% live in poverty and are subjected to food and livelihood insecurity (Kuhnenn, 2003).

The Namibia's Vision 2030's⁵ document on natural resources emphasis and sustainable development states that tenure over all natural resources must be given to communities (Hainduwa, Pers.comm, 2013). As mentioned earlier in this document, the project of community forests empowers local communities with forest management rights. This programme gives the local communities rights to manage forest resources on their own, to set utilization regulations, to issue forest use permits and to share generated benefits (CFN, 2008). In a way, the communities benefit from the forest resources in a sustainable manner.

There are numerous benefits that communities get from the forests as rural people heavily depend on forests resources for their livelihoods. Parviainen (2012) assumed that the poor depend more on natural resources than the well-off. This assumption makes tremendous sense; having noticed that the rural people are the experts in poverty reduction themselves, therefore, DoF under MAWF mandates manage and use the forest resources carefully in order to meet their subsistence needs.

Traditionally, most of the Namibians in rural areas are subsistence farmers, so through the community forestry, their grazing systems are secured (Mbapaha, n.d.). Local people can be employed for forests and fire management activities (CFN, 2008). Moreover, there is still much more that can be done to create local jobs for the community residents within CFs. In Namibia the programme of community forestry is aimed at establishing CFs through the devolution of sustainable management and utilization rights of forest resources, enabling rural communities to generate income from those areas in accordance with the Forest Act (Mbapaha, n.d.). The average earning from community forest is about N\$100,000 per year which is equivalent to US\$10,173 (Mbapaha, n.d.).

⁵ Namibia's vision 2030 is a national perception of the future that serves to guide and motivate the Namibian nation to make deliberate efforts to improve the quality of life of its people to the level of their counterparts in developed world by the year 2030 (Namibia Vision 2030, 2004).

2.2.9 Namibia's community forestry resources and production

Unlike in other SADC member states, Namibia's forestry resources are not conducive for timber industry or pulp production, and this type of use is limited. As stated earlier, Namibia does not contain any significant areas of true forest stands (Mogaka *et al*, 2001). Therefore, it does not have a formal forest industry, and its forests and woodlands do not contribute significantly to GDP. Instead, forests play a role in the livestock industry, tourism, and food and domestic energy needs (FAO, 2003). However, Parviainen (2012) reports that the main Namibia's forest products are fuel wood, saw timber, poles, and Non-Timber Forest Products (NTFPs) like mushroom, palm leaves, mopane worms, fruits, seeds, roots and traditional medicines. Similarly, in other southern African countries NTFPs are of significant importance such as fruits (Zambia, Swaziland, and Mozambique), medicinal plants (Zambia, South Africa, Mozambique, Zimbabwe and Malawi), mushrooms (Zambia, Malawi) and roots and tubers (Mozambique, Zambia) (Sola, 2011). Therefore, this shows that chances are pretty high for rural development, but not just put into effect yet.

Namibia's community forestry's revenue system is closely linked to the issuance of harvesting permits, which are based on inventories and inspections (Kojwang and Chakanga, 2001). In the case of Community Forestry, local residents have to pay for harvesting permits from the FMC, basically through the headmen of villages within the community forests. A fine is charged from any individual caught harvesting illegally (Gregorius, Pers.comm, 2013).

It has been recognized for some time that the Namibian economy requires increased diversification and structural change away from its dependence upon a few key sectors, such as mining and the government, in order to achieve truly sustainable and economic growth (Turpie *et al*, 2010). Hence, if Namibia is to meet its stated vision 2030, investigations on the possibilities of forestry will be essential too. Neglecting the forestry sector is the worst mistake any nation can ever make, because forest resources provide income generation opportunities within construction, woodworking and other sectors (NACSO, 2011).

Quite unfortunately, at this present stage there is no a clear distinction made in the economic valuation on NTFPs in Namibia. Nevertheless, the sum of non-timber values was US\$ 180 million in Namibia, which was nearly 450 times higher than outputs generated from commercial logging (Mogaka *et al*, 2001). UNEP (2012) states that together, timber and NTFPs are estimated to represent approximately 3% of the country's GDP. These are mainly from the northern regions where poverty level is high.

According to Epstein, 2006, like many countries in the developing world, Namibia is finding it challenging to supply steadfast electricity to its population across the nation. Therefore, remote and rural areas are heavily dependent upon fuelwood for energy. Namibia, in particular, over about 80% of all rural households rely on wood fuel as their main source of energy (EEP, 2012). This huge reliance on fuelwood for energy massively led to the increased deforestation in the past years. Other non-timber forest values are also demonstrably high.

2.2.10 Communities participatory in forest management

The empowerment of poor people in the community forestry is noteworthy (Bhattarai and Dhungana, 2005). The Namibia's forest policy identifies communities as the key players in the management and valuation of the resources and entitlement to benefits from its utilization (Corbett and Daniels, 1996). In Namibia, the conservation of biological diversity hinges upon the sustainable use of its components. This concept is well understood at community level and has been facilitated by Namibia's CBRM programme (UNEP, 2012). The Nature Conservation Amendment Act of 1996 and the forest Act of 2001 paved the way for the devolution of rights to communities over wildlife and forest resources through the mechanisms of 28 communal conservancies and 13 community forests registered in Namibia, covering over 20% of the country land mass (UNEP, 2012).

In order to solve the enormous and ongoing process of deforestation, community forestry is a new approach of forest management mechanism which has been introduced and implemented by DoF under MAWF. This follows the assumption that if the government involves local

people by giving them management rights and benefits to the use forest resources, they will develop a feeling of ownership (Schusser, 2012). Involving the communities in decision-making and benefits sharing is very important in combating poverty at community level (Bhattarai and Dhungana, 2005). If communities are to be keen, and economically competent, to get themselves involved in sustainable forest management this would promote encouraging economic benefits from conserving forest, and thus reduce degradation (Mogaka *et al*, 2001). Furthermore, it is very unlucky that poor people are often not aware of their rights and responsibilities; as a result, their ability to initiate forest-based enterprises is limited. And subsequently, their participatory in forestry management is in most cases limited. And consequently, this hinders rural livelihoods improvement as local people mostly make their living out of natural resources in the immediate environments.

Mogaka (2000), reports that there are no clear mechanisms for public participation in the face of increasing demands from rural communities. This is of no wonder because there is a couple of reasons such as; no sufficient research in forestry sector, no active community participation in forest-based enterprises, and of course, poor vegetation covers.

2.2.11 Economy causes forest degradation and loss

Natural resources use has always been, and still is an essential part of the use of communal land areas, and has demonstrated potentials to make an important contribution to local livelihoods. Therefore, it is important to understand that forest resources utilization can cause degradation and eventually loss if environmental, economic and social goals are not fully recognized. According to Ruppel and Ruppel-Schlichting (2011), in exception of socio-economic perspective, forests are the home of rich biodiversity.

Mogaka *et al*, (2001), states that one of the reasons why people carry out economic activities in ways and at levels that degrades forests is because they can gain immediate economic benefits from doing so. It is rather unfortunate that there is always an imbalance between the resources exploitation and conservation. According to Ruppel and Ruppel-Schlichting (2011),

in 2005 almost 7.7 million hectares of Namibia was covered by forests. This corresponds to 9.3% of the total land surface area. Almost 2% of its forested area has disappeared since 1990. There is often little immediate economic gain from conserving forest resources or using them sustainably (Mogaka *et al*, 2001). This obviously warns the Namibia's national forestry policy that forests and woodlands have to be managed sustainably and actively. However and of course, it should not mean that the socio-economic goal should to be ignored. Because, the exclusion of local inhabitants from forests brings forth numerous environmental conflicts (Duaglamyai, 2001, cited in Kijtewachakul *et al*, 2004; and Redclift, 1993).

According to Mogaka *et al*, 2001, in efforts for pleasing subsistence and income generation, and as a result of limited alternatives, local people normally have little options; therefore forests are depleted in the process of economic endeavors. In the near future the Reducing Emissions from Deforestation and Degradation (REDD-plus) and/or the Payment for Environmental Sciences (PES-tools) might draw some additional attention to the forests in Namibia. The country is already quite ready for current environmental tools, which could help in sustaining the fragile forests (Parviainen, 2012).

2.1.12 Community forestry and rural development

Broadly speaking, rural communities are believed to be the most devastated areas by poverty. That is why they are the most living in closeness with the nature, most especially with forest resources. Consequently, the Namibia's national forestry policy with its several objectives requests forest authorities to exploit appropriate state macroeconomic policies to secure resources to fund broad-based rural programmes that would partly benefit from forests (Namibia's forest policy, 2007). In exception of ecological functions of the forest and conservation of biological diversity, the policy also considers economic empowerment in rural areas to improve the livelihoods as part of the objectives. A number of evidences prove that the national forestry policy of Namibia is either completely neglecting the economic development, or it is not adequately impacting the rural livelihoods improvement in terms of

forestry enterprises. This is possibly because of the fact that Namibia does not yet have an active rural development policy.

The CBNRM programme, including conservancies and community forests, is both a conservation and rural development initiative, improving rural livelihoods, yet safeguarding the sustainable natural resources exploitation and sound protection of the environment of Namibia (Namibia's Communal Conservancies, 2011). CBNRM under MET is the integral tool for sustainable management of natural resources in Namibia. Community forests and communal conservancies are the two core strategies of CBNRM (CFN, 2008). Furthermore, CBNRM policy seeks to promote the increased and active involvement of rural communities in the tourism industry (Jones, 2003).

It is essential if markets of forest products are to work effectively and the resources to be managed sustainably (Namibia's forest policy, 2007). However, this alone is not enough, because the resources are to benefit rural people's livelihoods. Keeping the balance between sustainability and development will admirably lessen poverty in the rural areas of Namibia. That is why the main function of environmental laws of which the national forests policy is part, is to safeguard and protect environments and natural resources for both present and future generations. Policies are absolutely essential because humans can change the nature and exhaust natural resources by their actions or by the consequences of their actions (Ndeinoma, 2011).

2.1.13 Summary

Despite its dry conditions, Namibia's forests and woodlands play a major role in sustaining livelihoods, particularly in rural areas, even though its timber industry does not contribute significantly to the national economy. In exception of economic reasons, forests also play a key role in many environmental functions such as soil protection, water cycle, biodiversity, provision of various sub-cultural services, livelihood support and poverty alleviation. Therefore, it is a huge mistake to neglect forests and woodlands in laws and policies

formulations and enforcements. Poverty and environmental degradation are the main problems in the dry land of sub-Saharan Africa, where forests and trees contribute significantly to rural livelihoods and development. Since people residing in rural areas are the most in closeness with forest resources for the livelihoods, the Namibia's forestry policy identifies it of vital importance to involve communities in forest management and poverty reduction to promote both sustainable and socio-economic development. Understanding that forest resources utilization can lead to environmental degradation and possibly, loss, if environmental and social goals are not wholly recognized and that must consequently, be the central aim for every environmental law and policy formulation. Namibia, despite its poor vegetation cover and the absence of true forests, it is absolutely right to say with high confidence, that there are many gateways for rural development through the use of community forest resources without degrading them. Nevertheless, this can only be achieved if forest resources valuation, financial and technical supports are taken into account to initiate forest-oriented enterprises.

CHAPTER THREE: BACKGROUND OF STUDY SITE AND METHODOLOGY

3.1 Introduction

This third chapter of the research document deals with the research methodology and study area description. It is divided into several sections starting with the study area and its selection criteria. The study area is also briefly described in this chapter. The study design and several approaches employed to meet the objectives of the study are also defined here. Different types of data collection and analysis methods used in this study are given in this outlined as well. This very same chapter also explains different approaches used in assessing significant practical and potential market and non-market forest production outputs that contribute to the economic development for UCF.

3.2 Location and background of Uukolonkadhi community forest

The Uukolonkadhi community forest is situated in Omusati region in the North-Central of Namibia. Demographically, the North-Central Namibia is significant because it is the most populated area of the country (Newsham and Thomas, 2009). This area is part of the Kalahari and Namib sands (Kanime and Laamanen, 2003). The climate in Omusati region, as well as across the North-Central Namibia, is broadly described to be semi-arid. The region receives seasonal rainfall, about 96%, which mostly falls between November and April. January, February and March are the wettest months of the year (Kuhnhenh, 2003).

During the South Africa apartheid era, Ovambo where Omusati region is located became “Ovamboland” following the establishment of homelands in South West Africa in 1964 (Newsham and Thomas, 2009). South West Africa was the initial name for Namibia during the South Africa colonial era. After independence (1990), Ovamboland was subsequently spilt into the four North-Central administrative regions namely; Oshana, Omusati, Oshana and Oshikoto. As discussed earlier, the Republic of Namibia is divided into 14 administrative regions (see Figure 3).

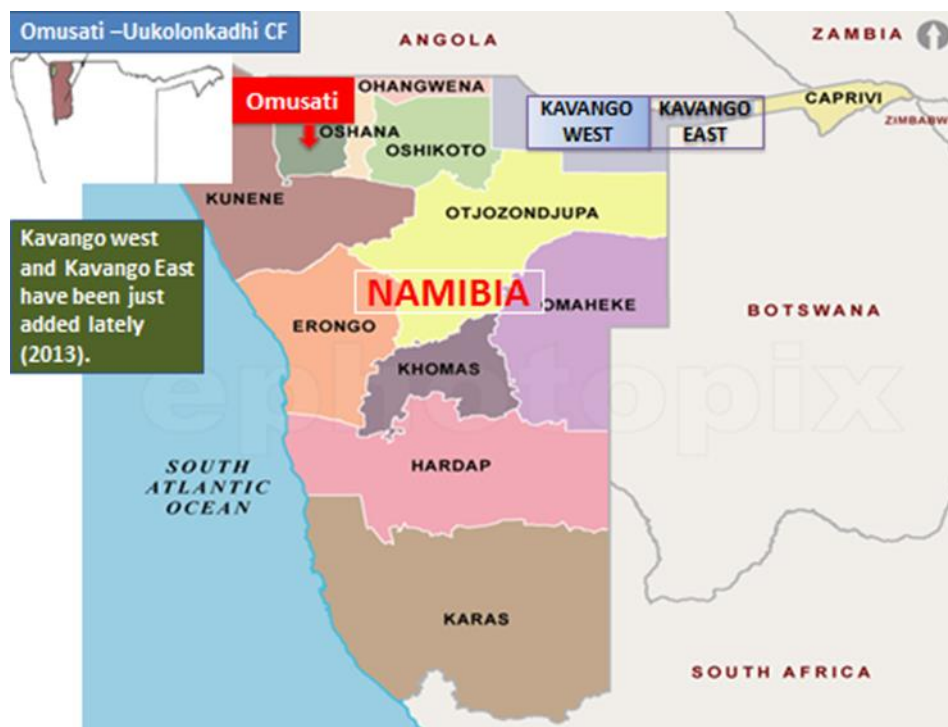


Figure 3: Namibia's administrative regions
 Source: (www.ephotopix.com, 2013)

Ovambo people have their own unique and entirely different traditions and customs from all the other more than ten ethnic groups of Namibia. Most of the people in Ovamboland live in rural areas. The poverty and inequality review of Namibia reveals that Namibia's poverty and inequality adversely affects those regions where more than half of the population lives in rural areas (A Review of Poverty and Inequality in Namibia, 2008). This is because of the higher dependence on subsistence farming with 37.3% as the main source of income. As a result, the percentage of employment in rural areas of Namibia is reasonably low with 23.2% compared to 68.8% of urban areas (Jauch, 2012). Nonetheless, Omusati region in particular, is one of the regions that have experienced remarkably high poverty alleviation having demonstrated 60% of poverty reduction in 2010 (Poverty Dynamics in Namibia, 2012). In terms of poverty reduction, Omusati is ranking in top four of all the thirteen administrative regions of Namibia. According to ORC (2010), Omusati's vision is integrated regional development that is socially stable and economically advanced (Figure 4).

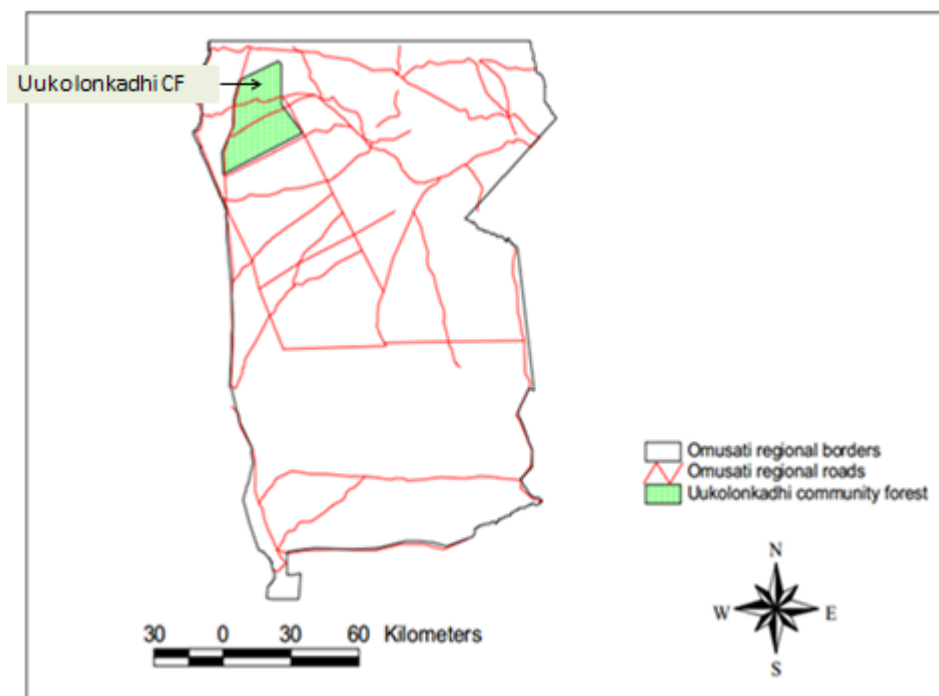


Figure 4: The location of Uukolonkadhi community forest in Omusati region
 Source: (Kanime and Laamanen, 2003)

Due to the low level of industrialization in most parts of Ovamboland, many young people migrate every year to bigger towns and cities like Windhoek (the capital city) in the central and southern parts of the country for better education and employment opportunities. However, development is tremendously evolving in some parts of Ovamboland with several emerging towns like Oshakati being regarded as the capital city of Ovamboland followed by Ongwediva and Ondangwa, then Eenhana, Outapi and Tsandi. Tsandi town is in the same constituency with UCF. Ovamboland has eight main tribes each with its own dialect, but only two written languages; Oshikwanyama and Oshindonga. In exception of English which is the official language, these two other languages are also taught in public schools.

Ovamboland is densely populated, accommodating about 50% of the Namibian population, though it covers only 4% of the country's surface (Hainduwa, 2013). With a density of 17 people per square kilometer, Omusati (242,900) is the third highest populated region after Ohangwena (245,100) and Khomas (340,900) (UNFPA, 2012). Its northern part is more densely populated than its southern part (ORC, 2010). With 26,551 km² of the total land

surface, Omusati Region is chiefly a rural area, with only 1% of its population living in urban areas in 2001 (Hainduwa, 2013). The Omusati region is home mainly to Oshiwambo speaking people, the dominant tribe of Namibia.

The North-Central regional topography is characterized by an extremely flat plain, which forms part of the Etosha depression, and hills in the west (Hainduwa, 2013). The land use is characterized by an agro-silvi-pastoral system which combines livestock herding and small-scale cereal production, supported by a variety of timber and non-timber resources (Newsham and Thomas, 2009). Omusati region is primarily dominated by *Colophospermum mopane* tree species which is locally known as (omusati). Common tree species found in the area are *Baikiaea plurijuga*, *Commiphora angolensis* and *Commiphora mollis* (Kanime and Laamanen, 2003). Giess (1971) distinguishes between three main vegetation zones, desert (16%), Savannah (64%) and dry woodlands (20%).

Gazetted on May 29th, 2006, and with the gazzement number 3590, the UCF (see Figure 5) is situated in Uukolonkadhi district in the northern part of Omusati region (Gregorius, Pers.comm, 2013). The annual rainfall in this area is between 300-350 mm (ORC, 2010). According to the Atlas of Namibia's vegetation map, Uukolonkadhi area is classified as trees and shrub savanna vegetation and the soil is classified as sandy soil (Kamwi, 2003).



Figure 5: Uukolonkadhi community forest
Source: (Gregorius, 2013)

The total area of UCF is 110417 hectares with 9 villages and the population of about 12 000 people (Iipinge, Pers.comm, 2013 and FAO, 2010). This community forest has higher tree species diversity with 20 species, and the average tree volume per hectare is 14.3 m³ (Kanime and Laamanen, 2003). The majority of people in the rural areas depend on forest resources for fuelwood and poles for homesteads construction and other basic household needs (Parviainen, 2012). Some plants are also used for nutrition and medicinal purposes. UCF is also home to varieties of wild animals like cheetahs, leopards, antelopes, elephants, lions, porcupines, jackals and hyenas that are attractive to tourists. According to Kanime and Laamanen (2003), both domestic animals and games also heavily depend on forest resources for fodder and shelters.

3.3 The operational system of Uukolonkadhi community forest

The Uukolonkadhi Traditional Authority (UTA) and MAWF regulate the utilization of the available resources within the CF (Hainduwa, 2013). For instance, if a resident wants to harvest firewood from the CF, he or she has to go through the headman of the village where the resources are to be harvested. The headman writes a permit issuing letter stating how much, where the firewood is going to be harvested and for what purpose (Figure 6).

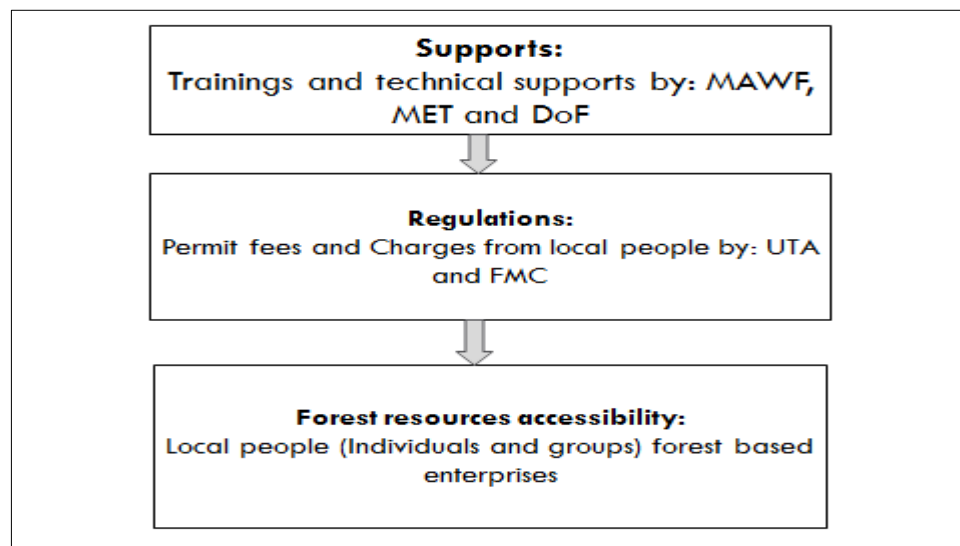


Figure 6: The structural system of Uukolonkadhi Community Forest (UCF)
Source: (Author, 2013)

This letter will then be submitted to the Forest Management Committee (FMC) where the permit will be obtained and the fee will be charged (Gregorius, Pers.comm, 2013).

It is quite unfortunate that the government does not provide any financial supports to the CF, but rather technical supports in forms of vehicles and some management materials. Apart from technical supports, the government also offers training and awareness campaigns to the community on how to manage the forest resources (Iipinge, Pers.comm, 2013).

The resources availability for UCF is pretty vast and with much entrepreneurship possibilities, but finances are the main limitation. According to the local people, the community forestry programme serves rural communities, including people from other regions, with construction materials and other many forest products. As it was discussed earlier in this chapter, the area is dominated by *Colophospermum mopane* which provides many NTFPs such as mopane worms (*Imbrasia belina*), which attract many harvesters from other regions (Hainduwa, 2013). Apart from Mopane, *Terminalia sericea* is another economically important species from which people produce farming tool handles like hoes and axes, because of its good quality.

3.4 Study approach and study area selection criteria

The approach used for this thesis was a “hard approach.” According to Kuhnenn (2003), the hard approach is characterized by a clear task the research is supposed to solve. The hard approach was chosen for this study, because the primary aim is to assess the impacts of the Namibia’s national forestry policy on Uukolonkadhi community livelihoods improvement as a component of poverty reduction (rural development). The soft approach, on the contrary, that would have allowed considering, for example, alternative mechanisms to lessen deforestation, was considered to be too far-reaching for a study of this size.

The study area was selected based on a set of criteria listed below:

1. The degree of the need of this kind of research in the area;
2. Effectiveness of the environmental and forestry policies;

3. Community forest economic growth or decline;
4. Accessibility by vehicle or foot;
5. Authorized administration;
6. The size of the area and (big enough) and
7. Data collection convenience.

Data on the effectiveness of the national forestry policy were obtained from households. In exception of the households, forestry stakeholders (FMC and TAs); and forestry and environmental experts (DoF and UNAM forestry lecturers) were interviewed through office visits, telephone, and online interviews that included:

- (1) Formal questionnaire surveys,
- (2) Interviews with local residents, government officials and local authorities and
- (3) Secondary data.

The research questionnaire was concisely designed and prepared to gather information on the community forest's resources availability, production, forest-oriented entrepreneurship, revenues and yearly production outputs and costs from 2009-2013, employment and the views of the community concerning the policy and management strategies.

3.4.1 Research design and strategy

The use of different types of data collection such as questionnaires and semi-structured interviews used in this study helped in gathering appropriate information. The research strategically followed 10 steps according to the study framework in order to successfully meet the objectives of the study. The study adopted the research design by Bickman (2008) which served as a fruitful baseline. This design helped as an appropriate architectural blueprint of the study which successfully linked the identified problem, data collection and analysis activities. This research was based on both qualitative and quantitative data analysis. It employed literature review and online documentations, field visits that included interviews and finally conclusions and recommendations (Figure 7).

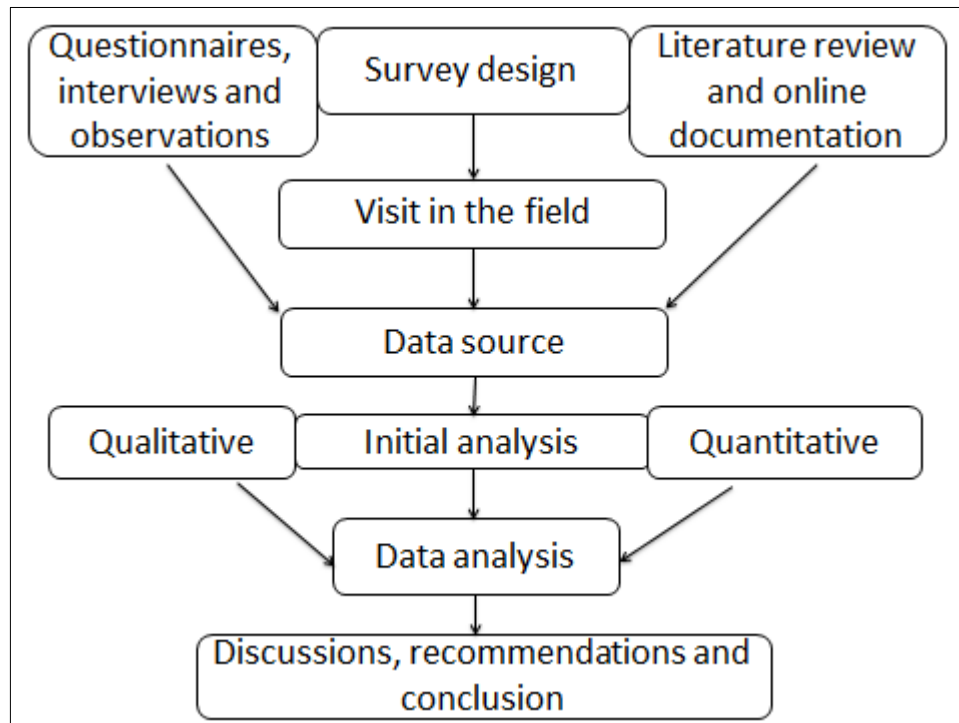


Figure 7: Research design prepared according to (Bickman, 2008)

3.5 Conceptual framework

Every study whether explicitly or implicitly, is based on a conceptual framework or model that specifies the variables of interest and expected relationships between them (Bickman, 2008). Primarily, the objective of this research is to explore and assess the influence of the Namibia's existing national forests policies and management strategies to ensure sustainable development and to maintain equitable rural livelihood outcomes. A theoretical framework created by Bhattarai and Dhungana (2005) served as a guideline to ground this study on 3 principal facets of analysis that could yield sound linkages (Figure 8);

- (1) National forest policies and management strategies in existence
- (2) Ensuring rural livelihoods welfare and development and
- (3) Within various socio-economic and ecological conditions.

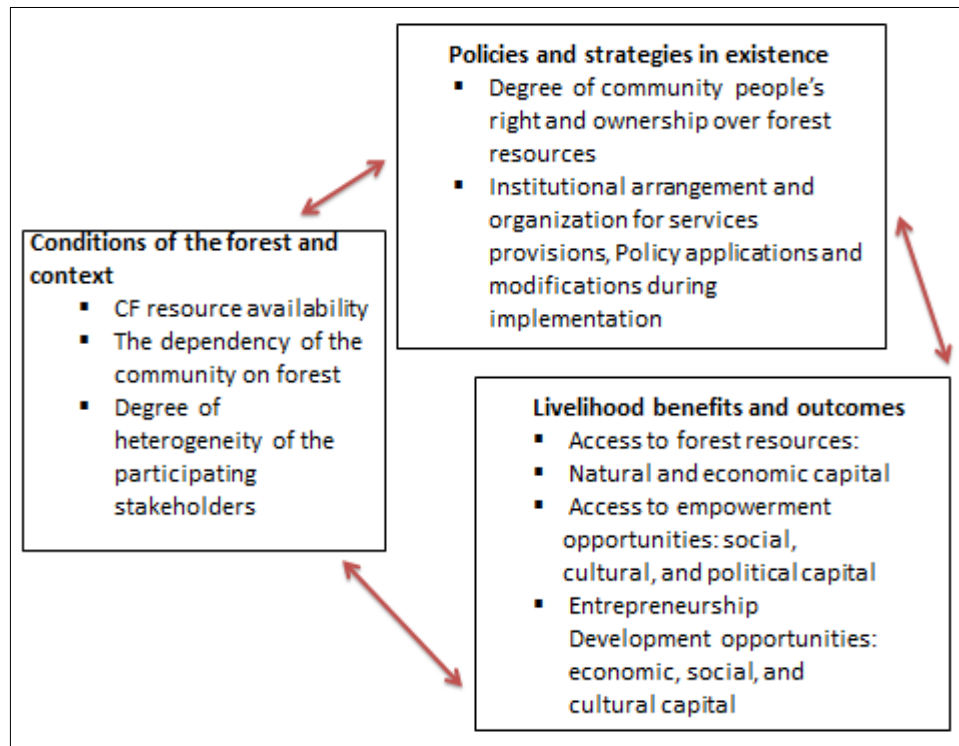


Figure 8: Conceptual framework modified according to (Bhattarai and Dhungana, 2005)

3.5.1 Conditions of the forest and context

As stipulated in the Forest Police Statement of Namibia, the chief mission of DoF is to practice and encourage sustainable and active communities' participatory management of forest resources and other woody vegetation, for socio-economic development and environmental welfare. Obviously, the key target areas for the forestry policy are conservation and socio-economic. Therefore this study aimed to observe the implementation and compliance with this policy and how it has influenced the CF resources management strategies that lead to rural development in UCF.

In order to answer the question whether the Namibia's national forestry policy is being appropriately implemented to contributing to rural development, the study had to consider the conditions of the forest, in the first place. The study assumed that a healthy forest yields satisfactory outputs. How to identify the conditions of the CF, the research looked at the 3 important factors:

- (1) Resources availability,
- (2) The nature of peoples' dependency on the forest resources and
- 3) The degree of diversity of participating stakeholders and donors.

The forest policy and management strategies involve various mechanisms and assessments of the conditions of the forests and the availability of the resources. They also consider, very much, the accessibility of the community members to the available resources. Whether there is fairness and equity in the distribution of the resources and all the forest benefits is another big concern. Also, the other crucial worry is the degree of the heterogeneity of actively participating stakeholders and actors. Schusser (2012), states that the main powerful actors in the CF of Namibia are; MAWF, German Development Service (DED), Traditional Authority (TA), Forest Management Committee (FMC), Conservancy Management Committee (CMC), villages head men, MET and Namibian Nature Foundation (NNF). It is of vital importance to assess the unity and cooperation between these institutions for a healthier and sound forest management.

Analysis of how the forestry policy encourages the pillar stakeholders to set strategies to address issues like poverty and allocation of the forest resources equally to all the community people are some of the main concerns that need to be urgently looked at (Bhattarai and Dhungana, 2005). Parviainen (2012), reports that the nature of dependency upon forest resources, especially NTFPs, is higher in rural areas than in urban areas. Indeed, poor people in rural areas depend on forests for food supplies, fodder for their livestock, firewood, and timber for construction and also for employment opportunities in forest-based industries.

This research deems that the structure of the forest influences and shapes the productivity of the forest momentarily. It therefore, explored how the forestry policy impacts the UCF's resources availability which consequently, boosts the rural development and poverty reduction. The study also investigated the changes in the forest structure, whether there have been extension or deterioration since the introduction of the policy and management strategies by the means of interviews with the forestry experts.

Additionally, forests in Namibia have a long tradition in supporting subsistence livelihoods. Thus, the project of CF gives a strong connection between subsistence and commercially-oriented management regimes. That is why reinforcement and amendments, where needs be, of the national forest policy are strongly recommended. Unfortunately, due to very few studies conducted previously on the forestry policy and rural development, there is therefore limited knowledge regarding the implications of equity and this might result in increased poaching and illegal logging. Thus, this made the policy makers stricter on conservation while neglecting socio-economic development.

3.5.2 National forestry policy and management strategies in existence

The Namibia's Environmental Assessment Policy (1995) states that the government of Namibia aims at the maintenance and promotion of the peoples' welfare through the conservation of ecosystems and ecological and biological diversity and utilization of living natural resources on a sustainability basis for the benefits for all the Namibians, in both present and future. Therefore, because of the Namibian rural peoples' dependency on natural resources, hence biophysical components including forests are vulnerable to environmental degradation. This is how the concept of deforestation comes in. It is very much worth noting that degraded forest ecosystems influence the whole environmental and economic system. Not to forget climate change and soil erosions as part of the major environmental concerns.

Basically, the CF project aims to directly involve the community people in some forest administrations and resources management, so that they have that feeling of ownership which will then make them more likely to conserve rather than damaging the forest resources, because they depend on them (Schusser, 2012).

How the institutions responsible for forest management are arranged is another important aspect in promoting sustainable and socio-economic development and welfare of the livelihoods of the community people. Proper institutional arrangements steer constructive and critical debates on productivity outcomes, equity and incentives to create job opportunities in

forest-based industries. The national forestry policy also targets to assess the performance of the forestry sector country wide (Namibia's forest policy, 2007). Quite often, ineffective implementations of policy and management strategies result in a poor performance. Normally, this is due to inadequate funds, assessments, researches and analysis. That is why more studies on CBNRM and forest policy and inventories are still an enormous need, especially in the case of Namibia.

3.5.3 Livelihood benefits and outputs

Community forests have a tremendous potential for commercial production outputs of multiple products as they are rich in resources, at the same time, with high biodiversity. The study's idea is that an outstanding relationship between the policy framework, management strategies, forest conditions and context positively influence rural livelihood welfare.

Under the forest extension efforts, the Namibia's forestry policy wishes to alleviate rural communities' poverty through increasing forestry productivity (Namibia's forest policy, 2007). The national forest policy and management strategies like certification of forest products with market potentials, and linking rural economy to urban and export markets greatly influence the outcomes. A good balance between policy objectives always results in healthy forests that give pleasing outcomes and equal benefits for all the beneficiaries. That is why this study observed and stressed on the importance of the hand of local people in the CF management and rural development. It is also worth noting that the active participatory of the community members in the forest management opens many doors for private enterprises relying on CF raw materials provided they have access to economic aids.

To critically analyze the livelihood benefits and outcomes, as adapted from Bhattarai and Dhungana (2005), the study defined three principal areas that tie local people to CF resources:

- (1) Access to forest resources,
- (2) Access to empowerment opportunities and
- (3) Access to entrepreneurship opportunities and economic development.

If local people have access to forestry resources in well-managed manners, this encourages rural development. However, this can only be achieved through genuine and active participatory of community members plus sound economic supports. Nevertheless, the participation of local people in the management is faced with several challenges namely; poor level of education, lack of understanding, inadequate services delivery mechanism by the government, poor level of technology, ignorance etc. Of all these, illiteracy is the most serious challenge, most especially amongst the elderly people. These massively affect the communities participatory and governance in the context of CF. Ignorance and poor interest of the young people to study forestry with the mentality of forestry being of less importance in Namibia is another constraint. As a result, this study assumed that the forestry-oriented industries are being hindered and neglected.

3.6 Data collection

Methodologically, the research required gathering relevant secondary data from specified documents. Primary data were collected as well, mainly in form of personal, online, and telephone interviews. Databases were compiled in order to analyze the materials, and arrive at a more complete understanding of the impacts of the national forest policy on the community forests production outputs and rural development in the selected community forest; UCF.

This research utilized both quantitative and qualitative data collection tools, but is more rooted in a qualitative epistemological position that recognizes the importance of locating the research within a particular sustainable and socio-economic context. It has also considered forestry resources valuation, nature conservation and biodiversity of the degraded Namibian ecosystems, and deforestation in particular.

3.7 Primary data collection

3.7.1 Semi-structured questionnaire surveys

Formal questionnaires were used for data collection. A semi-structured questionnaire was employed in the process of data collection that gave interviewees enough time to express their opinions and also to allow them to provide information required. The questionnaires were basically administered using face-to-face, telephone and online interviews. The field surveys conducted sought data on resources availability, benefits sharing, views on the influence of the forestry policy and the revenues from forestry resources like pestles and mortars, and NTFPs such as fuelwood, honey bee, hoe and axe handles and mopane worms. Additionally, some of the questionnaires were mailed to local relevant authorities, forestry and environmental experts and government officials in both MAWF and MET. Questions were carefully structured to make sure they are precise, brief and easy to understand. The questionnaire consisted both open-ended and closed-ended questions, but open-ended ones were regarded to be more efficient as confirmed by (Nichols, 1990 and Clem et al, 2008).

Several types of interviews were conducted including office visits, telephone and online interviews with the selected Uukolonkadhi community residents, UCF administrative office (FMC and UTA), forestry experts from MAWF, especially DoF in Outapi and Onesi Forest Substation that are responsible for UCF. Community residents were interviewed in Oshiwambo (local language) to ensure a complete understanding, for about 15 minutes. Where it was necessary, the questionnaire had to remain behind with the respondent for a couple of days for deep thoughts and relevant opinions. The survey also involved engaging with local forestry and environmental sciences experts from tertiary education institution (UNAM-Ogongo Campus lecturers) within the same region as the study area.

As it was mentioned earlier, Uukolonkadhi community forest consists of 9 villages. For the sake of budgetary costs and limited time, 36 households were sampled whereby 4 household were selected randomly in each village. However, due to some inconveniences like absence of the household heads during visiting hours, lack of understanding, various family business at

times of the visits, only 32 household could be successfully interviewed which gave 89% of the households that were successfully interviewed in the entire Uukolonkadhi community (Table 5).

Table 5: Total number of the households surveyed

Number of villages	Total number of households visited	Total No. of households successfully interviewed	% of households interviewed
9	36	32	89

In exception of the households, 5 forest experts were interviewed. The same number (5) of respondents was interviewed for environmental experts as well. Hence, the total number 10 experts were interviewed. The number of the experts is small because there are no many forestry specialists in the Namibian forestry sector. The questionnaire for forestry and environmental experts, on the other hand, was a little different from the one for the community members. This is because of the differences in the level of understanding between forestry experts and community members. The forestry expert’s questionnaire sought information on UCF revenues, production costs and forest extension or decline. Most of the production outputs and revenues⁶ information were provided by forestry experts especially officials from MAWF (DoF) who have all the necessary documented records. Monetary statistical data were obtained from FMC and DoF offices.

3.7.2 Institutional economic and legal analysis

Such analyses targeted the assessments of different aspects of the institutional framework including the national forestry policy, TAs, statutory and customary laws as well as internalized informal conventions. Institutional arrangements are important in promoting the community forestry’s economic development. It is through proper institutional arrangements

⁶To standardize the results, all the monetary figures used in this study report have been given in Namibian currency, the Namibian Dollar (N\$). According to EX currency converter, an international currency converter (<http://www.xe.com/currencyconverter>) in 2013, N\$ 1.00 was equal to 0.075 Eur (Euro) and 1.93 CZK (Czech Koruna). Physical values have been given in m3 (cubic meter).

the forestry policy can positively impact the community forestry programme to help rural people to generate more outputs by commercializing forest products through sustainable enterprises. This can be achieved through the promotion of forest products marketing, collection and trades of NTFPs, provision of processing equipment and financial and technical supports for joint venture enterprises within and outside the rural community (Figure 9).

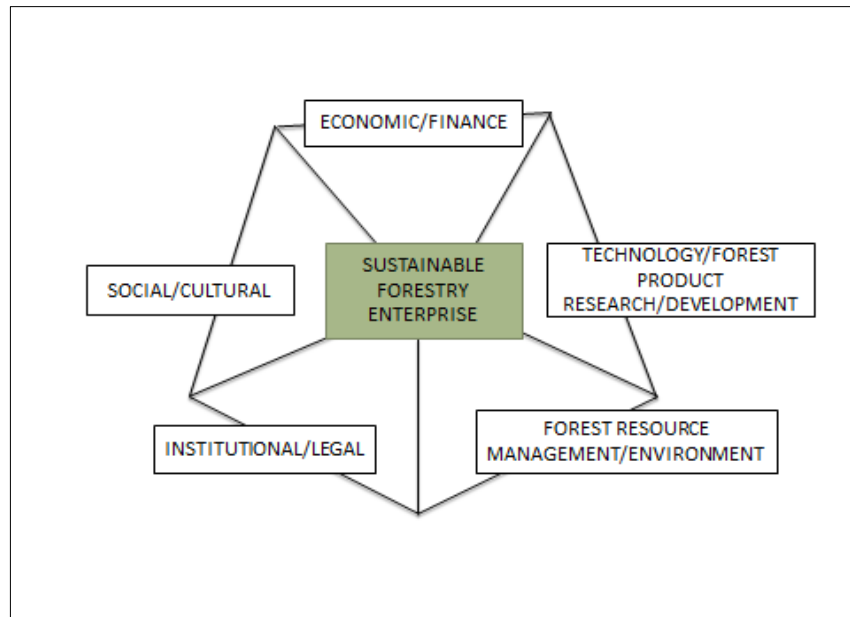


Figure 9: The five areas of enterprise development modified according to (FAO, 2011)

For this kind of investigations, the study conducted interviews with forestry experts like the office of the Director and Deputy Director of DoF in Windhoek. The statistical data on the production outputs were obtained from the office of DoF in Outapi and Onesi Forestry Substation. The UTA, FMC and local residents were also interviewed for this information. Statistically, the study focused on monetary valuation of the five major forest products of UCF which are:

- 1) Fuelwood
- 2) Hoe and axe handles
- 3) Honey bee
- 4) Mopane worms and
- 5) Pestles and mortars

These forest products are some of the pillar contributors to economic development of Uukolonkadhi community. As it was discussed earlier, community members have both management and benefits sharing rights over forestry resources. Therefore, revenue generated from these forest products are mostly through harvest permits as well as from the fines charged from illegal logging and poaching and the sales of confiscated items.

Local people obtain harvesting permits from the tradition authority to harvest resources from the forest. They have to pay for the permits, and this gives income to the community forest as a whole. If a resident is caught extracting resources from the forest without a permit, a fine is charged from that individual as a penalty. The prices of permits vary depending on the type, number or amount the products to be harvested. The research focused on the production costs and revenues of the selected products in the past five years (2009-2013).

It has been further elaborated how different incentives influence, support and contradict each other as well as how effectively they impact the actual forestry resources benefits of the community residents, traditional authorities as well as various community forest resources management and decision making. The analyses of information from theses interviews formed a basis for surveys of the whole community perception on the forest resource exploitation regulations and to pin point neglected habits that need immediate attention in order to improve the UCF production outputs.

3.7.3 Trends between rural poverty and forest production outputs

Here the study investigated the relations between UCF production outputs and the process of urbanization that is noticeably developing in most of Namibia's rural areas in recent years. Assessments on how urbanization influences forest production outputs. The study analyzed whether urbanization has negative or positive influences on UCF production outputs. Also, the study investigated how community forestry production can benefit from and pace up with urbanization. This was done by relating total production outputs of UCF to the trends of urbanization in Omusati administrative region where the study area is located. The trends of

urbanization were taken from Poverty Dynamics in Namibia, (2012). This is because Uukolonkadhi community itself does not have this specific data on urbanization trends.

3.8 Secondary data

Appropriate literatures were reviewed for secondary information such as project reports, maps review, and several studies collected from various governmental organizations such as DoF and FAO. Several existing reports by the two ministries that work hand in hand in the conservation of Namibia's environments and forests; MAWF and MET were analyzed and reviewed as well. Scientific journals and leaflets like Community Forestry in Namibia, too, were studied. Most of the sources were retrieved from internet where they are published by numerous organizations such as FAO, CBD, UN and many others.

After reviewing few sources on forestry policy impacts on community forests and rural development that are available, the study identified specific data gaps and research needs for further understanding of the significant economic impacts. This brought this study to the conclusion that there is really much need for studies on the economic impacts of environmental and forestry in the degraded ecosystems of Namibia. The paper closes with basic recommendations and concluding lessons learned from this community level study.

3.9 Data analysis and processing

Data analysis for this study did not incorporate much of computations, because it concentrated more on qualitative data. However, for monetary values, including forestry investments and revenues assessments; Microsoft Excel was employed for graph plotting and calculations. The study focused on five production years; that is from 2009-2013. It was decided to pick five years after the gazettelement year (2006). The years before 2006 were considered inappropriate because changes could not be noticeable immediately after the gazettelement year. Respondent's views were also analyzed and compiled in the research report.

3.9.1 SWOT analysis

Strengths, Weaknesses, Opportunities and Threats (SWOT) analysis were employed in order to give appropriate recommendations. These analyses were carried out in line with the guiding principles of the forest policy, UTA, CFM, DoF, community members and forest experts' opinions that were used to investigate the impacts of the Namibia's national forestry policy on CF production outputs and poverty alleviation in Uukolonkadhi rural community.

3.10 Limitations of study

The study was faced with a number of challenges like the shortage of fresh computerized data from the field which made the researcher to have some difficulties in data collection process. The lack of all the necessary reliable data was the most challenging limitation. FMC members have no experience or background on financial management. There are no comprehensible records for the cash flow, income statement and balance sheets. It is for this reason benefit-cost ratio analyses could not be applied to this study. This is due to the low level of education, especially among the traditional authority. High degree of illiteracy in the community, much more that most of the respondents are not fluent in the national language, which is English, and the level of understanding of forestry disciplines and enterprise potentials among community residents made it difficult to obtain dependable information.

Additionally, lack of fresh prior researches also made it tedious to review the literatures. This is because, despite the considerable entrepreneurship potentials, the Namibia's forests economic significances are not apparent. As a result, many researchers are neglecting forestry sector economy. Different families' routines resulted in some inconveniences as some household's heads could not be successfully interviewed on the appointment dates.

Another major limitation was the global problem of climate change. The fluctuation in climate and rainfalls of Namibia, especially in the North- Central regions affected data collection as in some years, for instance, in 2011-2013 when there were no good rainfalls. This means there are no comprehensive records for the NTFPs like mopane worms that rely of rainfall. Some of

the NTFPs could not be successfully assessed because individual community residents harvest them from the CF with no restrictions, thus no records are kept.

3.11 Delimitation of study

This study was delimited to interviews with community residents (household heads specifically), UTA, FMC, and forest experts who are the most active participants in the community forest managements. For the sake of time and budgetary costs, the study was restricted to one of the 13 gazetted community forests of Namibia, the UCF in Omusati region. This community forest was considered appropriate for this study because it is one of the Namibia's CFs with much potential for communal enterprises to improve the rural livelihoods. The UCF on the other hand, is surrounded by several key towns such as Tsandi, Outapi and Okahao in Omusati region. Community people have possibilities to create jobs and to sell forest products to generate income in these surrounding towns or to get all the necessary services from these towns to improve their initiatives.

3.12 Summary

This chapter presents the background information about the study area. It also gives the various study methods used in collecting and analyzing the relevant data to this study. Different appropriate study approaches applied in this study adopted from several researchers have been described here. Study area selection criteria, limitations and delimitation of the study have also been given in this very same chapter. Collected data for the study were analyzed and produced results are given in the following chapter 4.

CHAPTER FOUR: RESULTS

4.1 Introduction

This chapter presents the study results of how the national forests policy of Namibia influences the rural people of Uukolonkadhi community forest to benefit from forest resources in sustainable manners. From the economy point of view, the study focused on the outputs of some of the main community forest products such as mopane worms, honey, tool handles, pestles and mortars and fuelwood. The investments and costs of production activities and revenues were also taken into consideration. The chapter also gives employment figures, the impacts of urbanization, respondents' views and communal level programmes that Uukolonkadhi community forest has provided in the past five years (2009-2013).

4.2 Community forest resources and local people benefits

4.2.1 Community survey and demographics

As mentioned earlier in the previous chapter, a socio-economic study was conducted in UCF located in Omusati region one of the four North-Central regions of Namibia between September and October, 2013. The study involved questionnaire interviews, office visits, online and telephone interviews. For the sake of budgetary costs and time 36 households were interviewed whereby 4 households in each of the 9 village of Uukolonkadhi community were visited (Table 6).

Table 6: Total number of households surveyed within UCF

Number of villages	Total number of households visited	Total No. of households successfully interviewed	% of households interviewed
9	36	32	89

Owing to some inconveniences like the absence of the household heads during the visiting hours, lack of understanding, family business at times of visits, only 32 household could be successfully interviewed which gave 89% of the households successfully interviewed in the

entire Uukolonkadhi community. More than half of the respondents within UCF expressed their gratification by the national forests policy in terms of benefits sharing, which accounts to 63% of the interviewees. However, 37% of the respondents demonstrated that several adjustments still should be made to the national forests policy in order to improve the rural people's livelihoods and combat poverty in rural communities of Namibia (Figure 10).

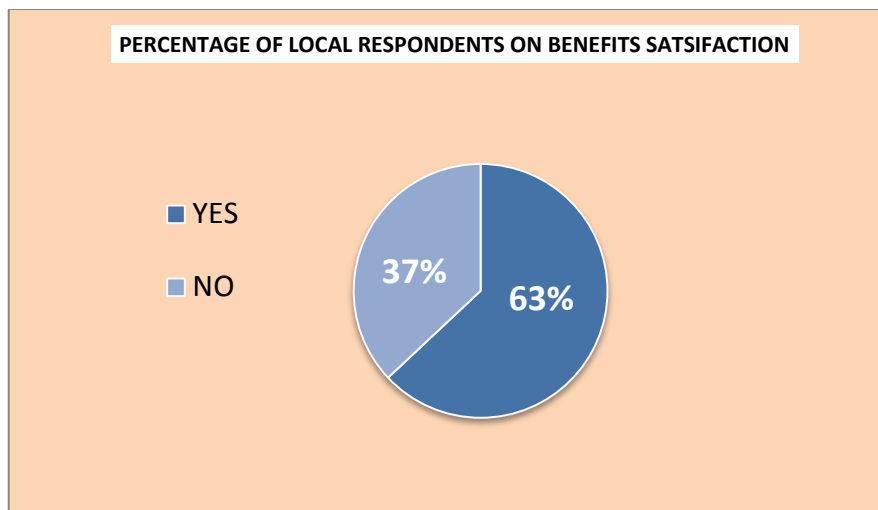


Figure 10: Percentage of the respondents on the satisfaction by the national forest policy in Uukolonkadhi community forest's benefits sharing

4.2.2 Conditions of the forest and context

Respondents described the forest conditions of UCF to have improved in terms stand structure and species composition in the past five years. Respondents explained that the reason is that cutting down of trees; especially mopane species (*Colophospermum mopane*) has gone down as most of the households switched to alternative building materials like bricks instead of poles that have been the main source of houses construction in the past. According to Iipinge⁷ (Pers.comm, 2013), UCF forest offers numerous benefits to the local peoples' livelihood in exception of biodiversity enrichment. All the respondents (100%) expressed that there is an indisputable reliance of rural people of UCF upon forest resources for a number of reasons such as:

⁷ Mr. Nestor Iipinge, a member of FMC and UTA is the headman of Otsika village in the vicinity of Uukolonkadhi community.

- ❖ Crop production
- ❖ Livestock
- ❖ Recreation
- ❖ Timber production
- ❖ Community enterprises
- ❖ Community programmes (e.g. orchards, kindergartens etc.)

Most of the respondents emphasized that the policy must be closely aligned with resources sustainable utilization as well as socio-economic aspects. As can be seen from the results, the involvement and empowerment of the community in forest management and conservation at communal level has positive impacts on the forest conditions. However, still most of the respondents expressed shallow understanding of all the potential forest based enterprises.

4.2.3 National forest policy management strategies and institutional arrangement

According to the respondents only the CFM carries out all the management activities of UCF at the present moment after the project of CFN was terminated in 2010.

*Table 7: The systematic structure on Namibia's national forestry policy
Source: (DoF, Outapi and Onesi Substation)*

Institution	Responsibilities
MAWF, MET, DoF and Donors	<ul style="list-style-type: none"> ○ Training and researches ○ Technical and financial supports
FMC and UTA	<ul style="list-style-type: none"> ○ Harvesting permit fees ○ Illegal harvests and poaching charges
Community initiatives	<ul style="list-style-type: none"> ○ Forest management and benefits sharing ○ Group and individual enterprises

Table 7 shows the initial systematic operational structure of the forestry policy of Namibia. The structure consists of MAWF, MET, DoF and donors as the spear headers that provide funds technical supports and researches and trainings, followed by FMC and UTA responsible for all the management and monitoring activities. Then community members who participate in the management and share forest resources sustainably. Respondents expressed that there was also a Community Forest Namibia (CFN) project since 2005 that has been funding the

community forests. According to Gregorius (Pers.comm, 2013), this project was helping all the community forests, basically in terms of funds to ensure the sustainable use of forestry resources and promote rural development until it was terminated in 2010.

4.3 Sustainable utilization of the forestry resources and socio-economic development

In exception of the households survey, the total number of 10 expert respondents (5 forest experts and 5 environmentalists) were specifically asked to give their views and estimations about to what extent the programme of community forests has fulfilled the socio-economic objective in order to improve the rural livelihoods of UCF from 2009-2013. There are few qualified forestry experts in Namibia, thus the number of the respondents to this specific questionnaire is small (Figure 11).

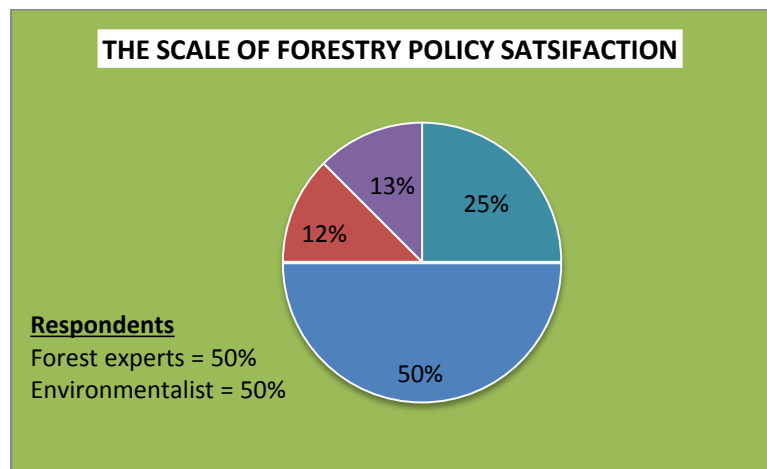


Figure 11: The scale of the national forestry policy performance in sustainable and socio-economic development

It was important to specially interview these two categories of interviewees who have high level of understanding of environmental disciplines. The interviewees from each of the two categories; (a) forestry experts and (b) environmentalists, expressed their views on the performance of the national policy in improving the rural livelihood of UCF residents by the mean of ticking on the scale from 1-10 (Table 8). This is basically because there is a strong connection between the two ministries (MAWF and MET) in the management of environments and natural resources including forests. The programme of community forests is

under CBNRM which is piloted by MET. The results demonstrate that half (50%) of the respondents irrespective of which ministry they are from, indicated that they are happy with the national forestry policy, although they suggested that still much needs to be done to improve rural livelihoods. In their opinions, the chief reason is that Namibia is sparsely forested; hence they believe that more focus must be on achieving the balance between conservation and utilization of the forest resources.

Table 8: The scale indicating the performance of the programme of community forests in improving rural livelihoods (2009-2013)

Scale	1	2	3	4	5	6	7	8	9	10
Respondents rating (MET+MAWF)					✓					
						✓				
			✓			✓				
			✓							
								✓		
						✓				
						✓				
						✓				
						✓				

Some respondents elaborated that the reason why forestry has a little contribution to rural livelihood is associated with little amount of forest resources in Namibia which is about 10%. Timber production is not really a viable commercial industry in Namibia because tree planting is difficult due to the dry nature of the country. Some respondents expressed that no change is required in the Forestry policy, but more emphasis need to be paid to other forest related products such as NTFPs or indigenous natural products that are also found in Namibian forests. They further suggested that the policy should take two orientations, one on timber products and the other of NTFPs such as fruit trees, medicinal plants and plants with natural products that can be used in cosmetic industries such as Oompeke (*Ximenia*) and Omumbiri (*Commiphora spp*) etc. These indigenous natural products have much potential of contributing to rural livelihood than the timber production.

4.4 UCF main forest products

The Namibian forests are rich in resources that are very useful to the rural people. The study concentrated only on some of the most economic important forest products. The evaluations focused on the production costs and revenues of these selected five main forest products. According to Ipinge, Gregorius and Hainduwa, (Pers.comm, 2013), the FMC of UCF does not have recorded data for each year due to lack of computers; therefore most of the data are estimations for the period of 2009-2013. Figure 12 presents the production costs of these products in UCF per year.

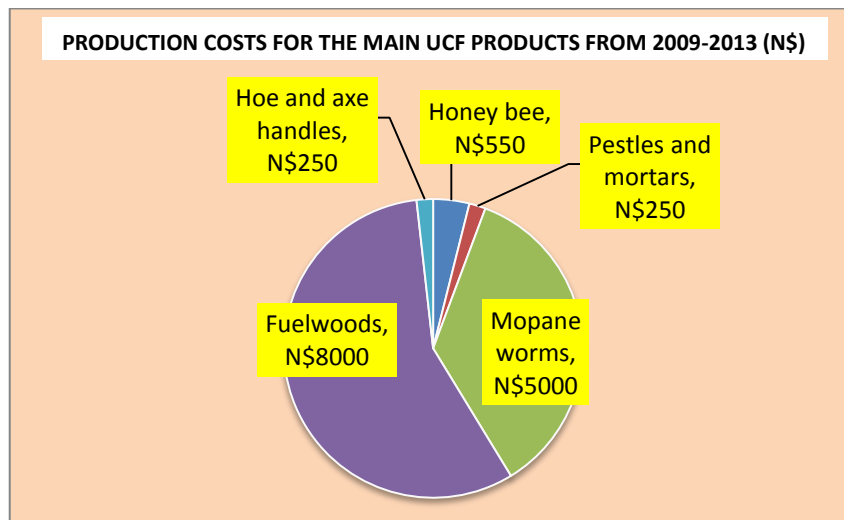


Figure 12: The investment and production costs of the main products of UCF

The findings prove that from 2009-2013; the UCF spent the highest production cost on fuelwood with the amount of N\$8000. Mopane worms (*Imbrasia belina*) come second with the production cost of N\$5000. Respondents described that mopane worms are collected annually from mopane tree (*Colophospermum mopane*) and are dependent on the amount rainfall. In the years with low rainfall there are few or no mopane worms at all. Honey bee is another substantial forest product of UCF on which N\$550 was spent. Hoe and axe handles have the same lowest cost amount as pestles and mortars of N\$250. Therefore, the total production cost for all these five forest products amounts to N\$14,050.00 per year (Table 9).

Table 9: Total production costs of the five forest products of UCF

Main Products	Production costs/year (2009-2013)
Honey bee	N\$550
Pestles and mortars	N\$250
Mopane worms	N\$5000
Fuelwood	N\$8000
Hoe and axe handles	N\$250
Total	N\$14,050.00

The production costs are very low because the government does not provide any financial support any more, but rather technical supports like vehicles. Reason being that the community forest is not a timber production company, but a communal programme that aims for forests management in a sustainable manner. However, because of the prevailing poverty in most of the rural areas of Namibia, and to contribute to the national development plan, Vision 2030, it will be best if rural people are encouraged and supported to initiate forest-oriented enterprise to improve their livelihoods which is one of the policy’s objectives.

4.4.1 Fuelwood

The results demonstrate that fuelwood is the most demanded forest product in UCF as most of the local people do not have access to electricity. As a result, fuelwood becomes the main source of energy for heating and cooking. This makes it one of the major forestry resources for income generation (Figure 13).

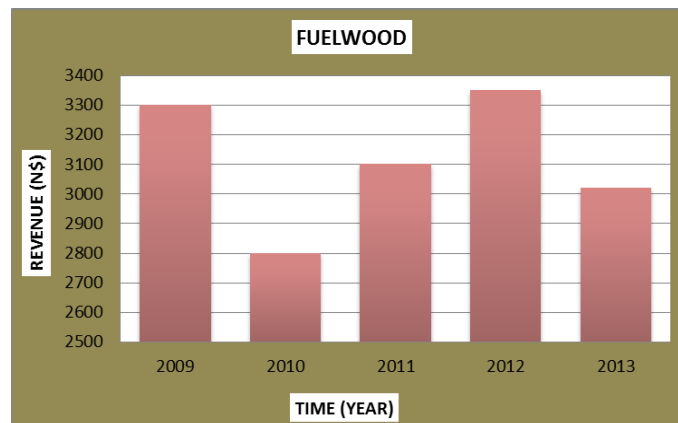


Figure 13: Revenue generated from fuelwood in UCF (2009-2013)

As can be seen on Figure 13, the results show that despite fuelwood being the most demanded forest product, its demand has been fluctuating in the past five years. The highest fuelwood revenue of N\$3350 was made in 2012, followed by N\$3300 in 2009. The least revenue was obtained in 2010 with N\$2800. The respondents expressed that these fluctuations in the revenue are mainly caused by factors like local activities such as wedding ceremonies. In years with many wedding ceremonies people demand more fuelwood, thus higher revenues in those particular years.

4.4.2 Hoe and axe handles

The communal land of UCF is under subsistent crop production, mainly for domestic consumption, though the surplus is sold to local markets. The cultivation is done basically by hand, hence hoe and axe handles are highly demanded by local farmers each year. The study reveals that income generated from tool handles are influenced by the amount of rainfall. In years with good rainfall, agricultural activities are more intense, therefore there are high demands of tool handles in local markets. According to the findings, it can be seen that the year 2010 had the highest revenue of N\$650 (Figure 14).



Figure 14: Revenue generated from hoe and axe handles in UCF (2009-2013)

The recent devastating drought was experienced in the year 2013; therefore the revenue made from tool handles was very low, N\$400. The sales take place almost throughout the year, even

though it is much more during the rainy season. Therefore, there are slight differences in revenues made each year. For example, the revenue difference between 2012 and 2013 is N\$150 (N\$550-N\$400=150). These cultivation tool handles are usually sold at lower prices as most farmers can curve and sell them; hence the overall revenue of N\$2600 was obtained for the period of five years (2009-2013).

4.4.3 Honey bee

Honey bee production has a long tradition in UCF, even though it has not been considerably commercialized owing to the fact that there are few people with keeping and harvesting skills. According to Ipinge (Pers.comm, 2013), honey bee production has steadily decreased in the past four years where insufficient rainfalls are believed to be one of the main contributing factors, with 2013 when no revenue was made at all (Figure 15).

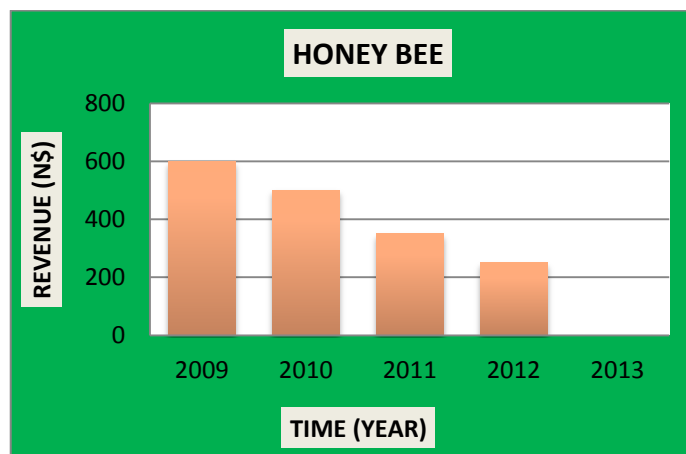


Figure 15: Revenues generated from honey bee production in UFC (2009-2013)

Figure 15 shows that the decrease has been constant from N\$600 (2009) to N\$0.00 output (2013). The reason behind the decrease is not fully understood, but it is supposed to be influenced by both environmental and biological factors. Humans' population growth is believed to be one of the contributing factors too. Inadequate skills in honey bee keeping are also considered to be the most contributing factors to this decrease. Local people are not trained in keeping honey bee, and they cannot afford honey bee equipment such as hives and

protective outfits. Therefore, honey bee production in UCF is not effectively human managed, but rather natural. Thus, it has been giving low income to zero production.

4.4.4 Pestles and mortars

About 90% of the subsistence farmers in UCF use pestles and mortars to pound farm products like pearl millet (*Pennisetum glaucum*) grains, locally known as mahangu on a daily basis. Pestles and mortars are household tools that cannot operate separately from each other. The pestles and mortars are, therefore, some of the forest products of economic importance in rural areas. Pestles and mortars are still very important in rural areas of Namibia and their sales take place every year (Figure 16).

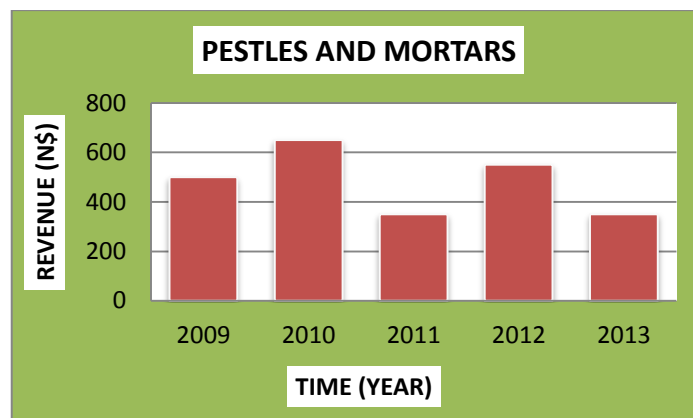


Figure 16: Revenue generated from pestles and mortars in UCF (2009-2013)

Figure 16 reveals that UCF made a good profit of N\$650 in 2010. In 2009 (N\$500) and 2012 (N\$550) the same revenue was almost made from these community forest products. The least revenue of N\$ 350 was obtained in 2011 and 2013. The results demonstrate that these products are in demand every year.



Figure 17: Pestles and mortars
Source: (Mwaala, 2013)

4.4.5 Mopane worms

According to the respondents mopane worms (*Imbrasia belina*) are some of the forest products of high economic importance that are harvested annually in UCF, specifically during the rainy season. Unquestionably, mopane worms are greatly influenced by the amount of rainfall (Figure 18).

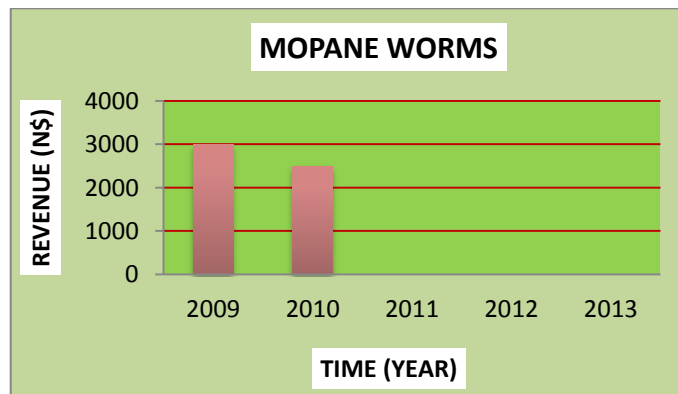


Figure 18: Mopane worms (*Imbrasia belina*) have high economic value, but influenced by the amount of rainfall

Figure 18 shows that the harvest of mopane worms is impossible in the years with very low or absolutely no rainfall. The results show that mopane worms were harvested in only two of the past five years, in 2009 and 2010. The findings indicate that in the years of mopane worms' occurrence, the UCF makes relatively high revenue from them. In 2009, the revenue from mopane was N\$3000 and N\$2500 in 2010. However, the respondents also expressed that income generated from mopane worms could be much higher than the recorded figures had it not been for some incidences of illegal harvesting.



Figure 19: Mopane worms are some of the highly demanded forest products.
Source: (Mwaala, 2013)

4.5 Total product outputs in the past five years

It can be concluded from the results that there has been nearly a constant decrease in revenues since 2009 to 2013. Iiping (Pers.comm, 2013), described that the decrease resulted from the low demands of the some of the forest products like fuelwood due to the improved electricity supply within the community in the recent years. Enterprises of products like mopane worms and honey bee have declined in the present years as a result of poor rainfalls (Figure 20).

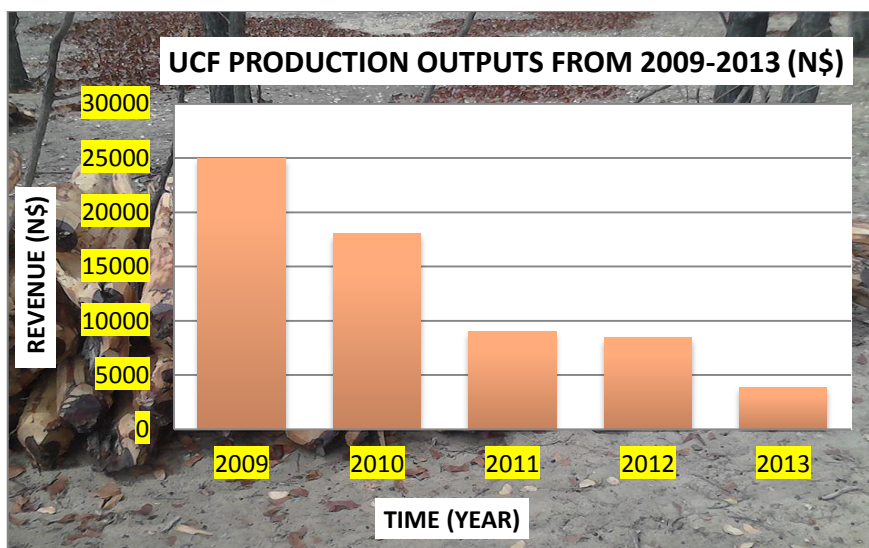


Figure 20: Total outputs generated from the main five forest products of UCF (2009-2013)

Figure 20 shows the production outputs for the main five forest products in UCF in the past five years (2009-2013). Gregorius (Pers.comm, 2013), described the decrease to have resulted from inadequate arrangement plans of the forest and insufficient funds from the government and NGOs to promote community initiatives.

Table 10: Total production outputs from the main five forest products of UCF (2009-2013)

Total production output for UCF in the past 5 years	
Year	Revenue
2009	N\$25,000.00
2010	N\$18,000.00
2011	N\$9,000.00
2012	N\$8,500.00
2013	N\$3,900.00
Total	N\$64,400.00

Table 10 shows the total revenue for the past five years (2009-2013) which is N\$64,400.00. The figures in the table indicate the sum of the selected forest products from UCF per year. The table shows that from 2009-2013 the production outputs have been dramatically going down. Most of the respondents described the decrease in the revenues to have resulted from the lack of voluntary projects, lack of technical support such as transports, and the fact that the funding programme of CFN has ended in 2010. Hence, the FMC is rather on it is own.

4.6 Trends between rural poverty and forest production outputs

Table 11: Estimated urbanization and poverty changes by regions and localities
Source: (Poverty Dynamics in Namibia, 2012)

		Periods			Differences		
		A: 1993/94	B: 2003/04	C: 2009/10	B-A	C-B	C-A
Locality							
Urban		39.0	17.0	14.6	-21.9***	-2.4	-24.3***
Rural		81.6	48.7	37.4	-32.9***	-11.3***	-44.2***
Region							
	<i>Urbanization In 2004</i>						
Caprivi	29.3	81.3	36.5	50.2	-44.8***	13.7***	-31.1***
Erongo	83.8	43.6	14.3	07.1	-29.2***	-7.8**	-36.4***
Hardap	43.2	51.5	42.0	26.0	-09.6*	-16.0***	-25.6***
Karas	56.1	51.5	32.7	26.9	-18.8***	-5.9	-24.7***
Kavango	18.6	76.3	64.1	55.2	-12.2***	-8.9**	-21.2***
Khomas	94.2	26.8	08.1	10.7	-18.7***	2.6	-16.1***
Kunene	34.6	80.1	36.8	30.2	-34.4***	-6.6	-49.9***
Ohangwena	1.3	89.2	55.5	30.1	-33.6***	-25.5***	-59.1***
Omaheke	24.6	76.5	41.1	31.1	-35.2***	-10.3	-45.4***
Omusati	1.0	79.1	38.4	19.1	-40.7***	-19.3***	-60.0***
Oshana	32.7	80.5	25.7	19.4	-54.8***	-6.3*	-61.2***
Oshikoto	9.2	82.5	49.4	44.2	-33.1***	-5.2	-38.3***
Otjozondjupa	53.8	60.1	39.0	33.7	-21.2***	-5.2	-26.4***
National	34.6	69.3	37.7	28.7	-31.5***	-9.0***	-40.5***

* p<0.10, ** p<0.05, *** p<0.01

Table 11 shows the estimated poverty trends in the administrative regions of Namibia. Uukolonkadhi is located in Omusati region (highlighted). There are no specific data for Uukolonkadhi district. As a result, the study had to base the comparisons on the Omusati

region statistical data in which the study area is located. As can be seen from the results, poverty in Omusati declined to 19.1% in 2009/2010. The decline in poverty is associated with the growing urbanization.

4.7 Views on the National Forests Policy

Community residents, UTA, FMC, forestry experts and environmentalists respondents were interviewed to give their opinions on the satisfaction by the national forestry policy in forest resources management and socio-economic development. The main question was whether the national policy should be amended, and if so, how. Different respondents with different level of forestry understanding gave their views (Table 21).

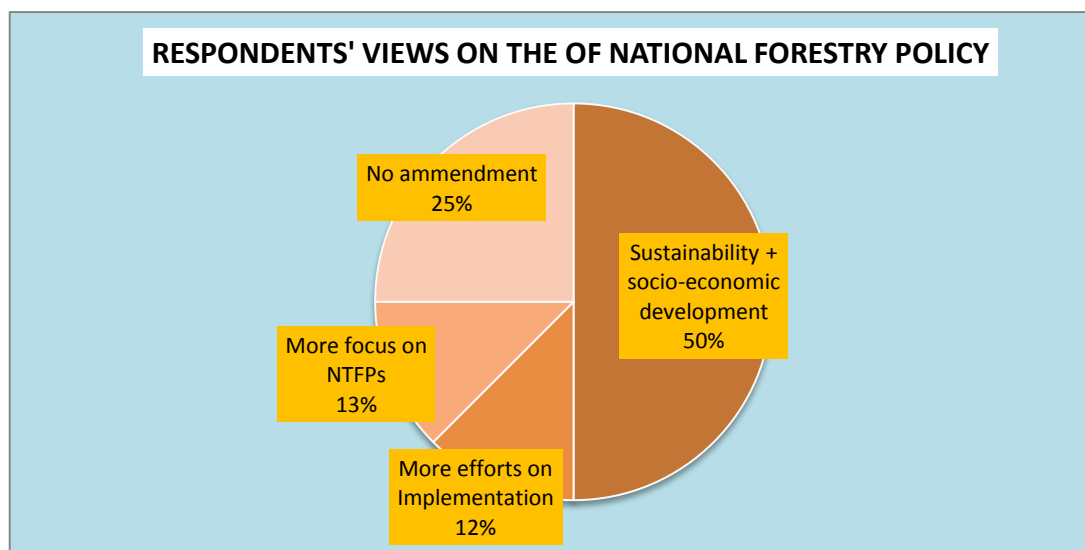


Figure 21: Respondents' views on the national forest policy performance at communal level

Figure 21 shows that most of the respondents believe that the policy should be amended. The finding indicates that half of the respondents (50%) recommended that the policy should be adjusted to focus more on the two main objectives of sustainability and socio-economic development. These respondents proposed that there are much possibilities for the rural people to progress in poverty reduction through forest resources provided that they are supported both technically and financially by the government and other potential donors. According to Hailwa

(Pers.comm, 2013),⁸ there is a need to increase incentives for the communities. In some cases forests in their areas do not generate money. Even though forests are more important to maintain ecosystems for their environmental welfare and biodiversity, the government should give some means to the people to be able generate income.

Shishome (Pers.comm, 2013), proposed that the policy should be amended to include socio-economic objective as these already appear on the aims of the policy and the mandate of DoF. The development forestry policy had made a provision for socio-economic, to improve the rural livelihoods by empowering local communities to manage the forests and derive benefits in terms of basic needs and opportunities for income generating. The empowering of communities is done through gazetting community forests, to give them legal right to manage, utilize forest resources on sustainable management and derive benefits such as basic needs, maintain resources and sources of income generating.

One quarter (25%) of the respondents expressed their 100% gratification, hence suggested no amendment option of the national forests policy at all. This group of respondents expressed their concern on the degrading ecosystems of Namibia, especially the risk of deforestation. Therefore, they believe that the policy is doing quite enough by paying more attention on the conservation of the forests. One eighth (13%) of them proposed more focus on NTFPs. The remaining 12% of the respondents were not specific, but expressed that the policy is not fully implemented. Therefore, they recommended that the policy needs to be wholly amended.

4.7 Employment and Community Development Projects (CDPs)

According to Hainduwa and Gregorius⁹ (Pers.comm, 2013), UCF does not offer definite permanent jobs to the local people, but instead it offers various casual jobs through community projects. According to Hainduwa (Pers.comm, 2013), since UCF was gazetted,

⁸ Mr. Joseph S. Hailwa is the Director of Forestry, and Ms. A. H. Shishome is the Deputy Director, Forest Management, Directorate of Forestry, Ministry of Agriculture, Water and Forestry, Windhoek, Namibia.

⁹ Hainduwa N. F is a forest official of Outapi DoF, whereas Gregorius L. is a forest ranger at Onesi Forest Substation.

only about 60 jobs have been offered, but with very poor salaries. Mostly, the only job opportunities that occur are short-term and absolutely temporary. Thus, there are no records of how many employees recruited in the community forest each year. However, the UCF supports community development projects (CDPs) such as kindergartens, churches, schools, etc. CDPs play several major roles such as:

- ❖ Contributing 50% of its annual income is given to GDP
- ❖ Contributing 10% of its annual income to the TAs
- ❖ Improving capacity building of FMC members through training in different fields
- ❖ Managing, protecting and ensuring sustainable utilization of forest resources

Gregorius (Pers.comm, 2013), described that despite the small number of the management staff, one of the huge challenges the community forest faces is the poor salaries for the personnel. This is because the only source of income generation for the UCF personnel is from harvesting permits and from auction of confiscated items that are illegally harvested from the forest. This has to do with illegal logging and poaching incidents. As a result, the few employees together with the TAs are discouraged in carrying out their duties in forest management activities and tree cutting control. Subsequently, illegal harvesting and poaching have been happening time to time. According to Mr. Iipinga (Pers.comm, 2013), the government puts quite less efforts in supporting the FMC and UTA with adequate technical supports to enhance the forest management. However, DoF occasionally facilitates some of the management activities such as patrols (Figure 22).



*Figure 22: DoF officials on forest patrol in UCF
Source: (Gregorius, 2013)*

4.8 SWOT analysis

The SWOT analysis was employed to assess the influences of the Namibian national forests policy in rural development and poverty reduction in UCF. To carry out the study, environmental and socio-economic aspects of the community forest of Uukolonkadhi were the key elements taken into consideration as shown on Table 12 below. The study proves that community participatory in the forest management; good institutional arrangement and equal benefits sharing are the principal strengths, while inadequate technical and financial supports, low salaries for the FMC and lack of literate personnel are the major weaknesses. On the contrary, environmental awareness and training in community level enterprises were identified

to be some of pillar opportunities. Illegal harvesting and poaching, effects of climate change and human population growth were observed as the main threats.

Table 12: The SWOT analysis on the influences of the national forestry policy on rural development, UCF

Strengths	Weaknesses
<ul style="list-style-type: none"> ○ Community participatory ○ Equal benefit sharing (equity) ○ Good institutional arrangement 	<ul style="list-style-type: none"> ○ Inadequate technical and financial supports ○ Lack of community economic incentives ○ Low salaries for the FMC – poor management efforts ○ Lack of literate and trained personnel
Opportunities	Threats
<ul style="list-style-type: none"> ○ Environmental awareness and training ○ Dependency of the community on forest ○ Forest resources availability (mostly NTFPs) ○ Government soft loans for enterprises ○ Self-help and group projects funds from donors 	<ul style="list-style-type: none"> ○ Population growth and urbanization ○ Illegal harvesting and poaching ○ Effects of climate change ○ Development of alternatives to forest products ○ Forest degradation and loss

4.9 Summary

This chapter presents the socio-economic results from the surveys of the households within Uukolonkadhi district, FMC, UTA, forestry and environmental experts’ information regarding the community forest production outputs and rural development. It also presents the investment costs in the production of the selected community forest. The results from this chapter are discussed in details and compared with other previous studies in the following chapter 5.

CHAPTER FIVE: DISCUSSIONS AND RECOMMENDATIONS

5.1 Introduction

The main objective of this study is to investigate the influence of the Namibia's national forest policy on community forestry production outputs to enhance rural development. The study was carried out based on three objectives: (1) to assess how Namibia's national forestry policy influences community forest resources and rural communities' benefits, (2) to evaluate how the Namibia's national forestry policy can be framed to promote rural development for Uukolonkadhi community forest and (3) to recommend necessary amendments of the Namibia's national forestry policy in order to keep the balance between sustainable and socio-economic development with regard to community forests. The main study problem is the concern about reaching the balance between forestry resources and rural development through the programme of community forestry. This chapter presents the discussions of the results in context of the study objectives.

5.2 Conditions of the forest and context

As stated by Parviainen (2012), the study confirms that most of the rural community inhabitants heavily rely upon forestry resources. The overall vegetation cover of Namibia is about 10% (Mendelsohn and Obed, 2005). However, despite that fact, this study proves that the forest condition of Uukolonkadhi is particularly good in terms of resources availability. According to the respondents, forest conditions of UCF have improved after its gazzement in 2006. Despite the poor timber production which is well understood nationwide, forest resources availability is in abundance; especially talking of various NTFPs. Namibia's timber industry is disadvantaged by poor vegetation growth rate due to infertile soils, harsh climate, wildfires and anthropologic activities (Hainduwa, 2013). Also, most of Namibia's climate is characterized by semi-arid to hyper-arid conditions and highly variable rainfall (Newsham and Thomas, 2009). However, local people are allowed to benefit and actively participate in forest resources management through the programme of community forestry (Louw, 2007 and Sola, 2011). This gives them much potential to improve rural livelihoods from forest resources

through local enterprises and equal benefits sharing. Nevertheless, the main hindrances are the lack of technical and financial supports, poor level of understanding and inadequate forest management personnel. Likewise, rural population pressure (Thomas, 2013) and ineffective monitoring and inspection of the forest resources contribute to several incidences of illegal logging and poaching which led to increased deforestation in the past years. Thus, this made the policy makers stricter on conservation while neglecting socio-economic development. However, the fact remains that forest resources conservation and socio-economic development are the key objectives of the policy that support the national goal of poverty reduction (Schusser, 2012).

5.3 Forestry policy and institutional arrangement

The institutional arrangement for the forestry policy as a whole is sound and adequate in a sense that it enhances equitable benefits sharing within the community in recent years. There has been a very huge improvement, because according to Mogaka *et al*, (2001), Namibia's forestry sector was very much neglected in terms of policy and institutions until after independence. The community people are granted management rights over forest resources by MAWF through DoF piloted by the project of CBNRM under the Forest Act No. 12 of 2001, as amended Forest Act No. 13 of 2005 (CFN, 2008 and Thomas, 2013). Local inhabitants manage the forests through FMC and TAs as management bodies. In exception of management, community people are also given other four key rights over forest resources; the right to access, to exclude, to withdraw and alienate (Bhattarai and Dhungana, 2005). The combination of these rights results in a more conducive management mechanism, equal benefits sharing and sustainable utilization of forest resources.

However, there is a lack of effective personnel at community level due to poor salaries. Also, local people are not provided with all the necessary support they require to carry out management activities. Also, the poor level of education among the FMC members impedes effective management activities. There are no reliable computed and well documented management plans, annual records or cash flows. Again, no sufficient socio-economic

research projects have been conducted to shape the forest resources conservation, forest production outputs, enterprises and management. That is one of the main reasons it was difficult to collect the data for this research. According to Gregorius (Pers.comm, 2013), this situation has worsened especially after the project of CFN ended in 2010. Furthermore, more than half of the rural people are illiterate and unaware of the importance of forestry resources for both present and future generations.

5.4 Livelihood benefits and forest production outputs

5.4.1 Forest production costs versus outputs

The results reveal that community forest of Uukolonkadhi mostly makes significant outputs from products like fuelwood, hoe and axe handles, pestles and mortars; even though their returns are fluctuating. These are the most locally demanded community forest products. Outputs from mopane worms (*Imbrasia belina*) and honey bee, on the contrary, are extremely decreasing. Reason being that their productivity depends on the amount of rainfall. Unfortunately, Namibia is believed to be vulnerable to climate change effects (Mfune *et al*, 2009). So, the issue of climate change has a huge negative impact on these forest products. However, it is interesting recognizing that there is a significant difference between the total production costs (N\$14,050.00) and total outputs (N\$64,400.00). Production outputs are greater (>N\$50,350.00) than production costs in the past five years (2009-2013). Therefore, there is a high confidence that the programme of community forestry can be considered in contributing to rural development and poverty mitigation. However, it is worth noting that the FMC and TAs have no experience or background on financial management. That is why there are no comprehensible records for the cash flow, income statements and balance sheets. Also, Namibia's forest revenue system is closely associated with the issuance of harvesting permits, which are based on inventories and inspections (Kojwang and Chakanga, 2001). All these factors negatively affect the economic value of community forests. In addition, good governance within the forestry community members should be advocated and a communal market should be considered.

5.4.2 NTFPs and rural development

Despite the abundance of forestry resources, most especially NTFPs, the production outputs of UCF are enormously decreasing. Because the forestry policy tends to encourage strict forest resources protection and conservation and pays little attention to the objective of rural development. Forests are regarded to be more of bequest value than for economic and rural development. This is mainly owing to the poor vegetation cover of Namibia as a result of the dry climatic conditions. Again, some of the community forest products are heavily influenced by rainfall, e.g. mopane worms (*Imbrasia belina*) which are an important protein rich food item consumed by people from all income groups in Namibia, though mainly by lower and middle-income groups (Thomas, 2013). Due to the natural conditions of Namibia's forests, it is not surprising that most of the respondents expressed to be content with the national forests policy. Of course, there is a slight blindness and lack of awareness and understanding of the potential of forest-based enterprises among community residents.

Omusati is one of the North-Central regions of Namibia with the high rate of poverty (Poverty Dynamics in Namibia, 2010). There is much poor local people can do to benefit from community forests and improve their livelihoods, yet conserving them. NTFPs are the main forest products in Namibia (Parviainen, 2012). For that reason, the policy should take an orientation, mainly on NTFPs products such as fruit trees, medicinal plants (e.g. devil's claw) and plants with natural products that can be used in cosmetic industries such as Oompeke (*Ximenia spp.*) and Omumbiri (*Commiphora spp.*) etc. These indigenous NTFPs have much potential of improving rural livelihoods than timber production. The national forestry policy should put more efforts in keeping the balance between forest conservation and sustainable utilization of forestry resources and rural development as components of poverty reduction in rural communities. This will also create more jobs for local people.

Since the gazzetment of UCF (2006) only about 60 permanent jobs have been offered within UCF. Yet, the salaries are very poor depending on how much income made from the forest production. Basically, these salaries are determined by the issuance of harvesting permits (Kojwang and Chakanga, 2001). The rest are casual jobs and voluntary participation in CDPs. Most of the Namibian people are talented in various art activities like baskets weaving and

wood carving. All these are potential forest incentives for income generation. Most of the rural people also possess care and fundamental understanding of the importance of the environments and forests. Therefore, if local residents are trained and provided with both financial and technical supports, they can do a lot with forest resources to initiate entrepreneurs, create more local jobs and reduce poverty in rural areas without exhausting the environments. Moreover, this can only be achieved through adequate community training and awareness campaigns on forest-oriented entrepreneurs and provision of soft governmental and NGOs loans and funds from possible international donors such as FNNIDA and DED (CFN, 2008). This, to some degree, will contribute to the Namibia's national development plan, Vision 2030 (Namibia vision 2030, 2004). In some countries, Mexico, for example, community forestry has been more successful because communities receive legal support from the government to manage their forests (Wood, 2008).

5.5 Relations between production outputs and urbanization

The production outputs have been decreasing dramatically from 2009-2013, and probably expected to go down to zero in the following years. This decrease is associated with a number of reasons of which urbanization is one. According to Poverty Dynamics in Namibia (2012), Omusati region is one of the administrative regions of Namibia with a high rate of urbanization, demonstrating 19.1% of urbanization growth in the period of 2009/10. The process of urbanization has both negative and positive impacts on the community forestry market. It makes forestry marketing more feasible, yet at the same time it causes the demand of most of forest products to diminish. For example, most of the wealthy households have switched to modern Pearl millet (*Pennisetum glaucum*) pounding mills instead of traditional pestles and mortars that have been used locally in the past. Pearl millet is the staple meal in the North-Central regions of Namibia, and locally known as mahangu.

Also, the demand of fuelwood has declined as wealthy households began to use electricity in recent years. Hence, only poor local people still use fuelwood for cooking and lighting. But still, this does not make a significant difference as like many other developing countries,

Namibia is still struggling to provide reliable and affordable electricity to its population (Epstein, 2006). That is why about 80% of its rural households still rely on fuelwood as their main source of energy (EEP, 2012). Therefore, fuelwood can still be considered feasible in community forestry market provided that sustainable use is taken into account.

The high rate of urbanization influences the decrease in forest production outputs much more that there will be possibly no demand and production outputs at all in the few next years, unless urgent steps are taken immediately. Therefore, forests will have absolutely no impacts on rural development. However, because not all of the rural people can keep pace with urbanization just yet, there will be a huge risk of increased poaching and illegal harvesting of forest products if forest-based enterprises happen to be completely neglected. Terminating community forestry enterprises will mean no more salaries for the FMC and TAs members, and this will consequently result in ineffective forest monitoring and management. It is for this reason, policy makers, FMC, TAs and all the stakeholders should be made aware of the most likely risks to the project of community forestry. In most countries of the world, forest products are in many cases harvested and traded illegally (Sola, 2011). The forestry policy should facilitate funds and enforce active and proper community forests monitoring and inspections.

On the other hand, urbanization has numerous tremendous positive influences on forest production outputs in a sense that the community forests can be turned into recreation establishments such as attractive tourism lodges, campsites, forestry research centers and wild animal cages. All these initiatives can generate more outputs and create local job opportunities. According to Ruppel and Ruppel-Schlichting (2011), in exception of socio-economic perspective, forests are the home of rich biodiversity. Therefore, community forests can be used as a mean of remarkable income generation from tourism industry. There is also a huge need of forest research centers. Forest research, education and training are some of the policy principles (Louw, 2007).

Prevention is always cheaper than cure, therefore, community forests personnel has to be well trained, encouraged and well equipped to prevent this danger of forest negligence. Again, total

prohibition of local people from forests brings forth numerous human-environment conflicts (Duaglamiyai, 2001, cited in Kijtewachakul *et al*, 2004, Redclift, 1993 and Wood, 2008). The REDD-plus payment or a similar type of incentive could be useful in directing community forestry towards sustainability and preventing forest degradation and deforestation in community forest areas (Parviainen, 2012). Also, the forest policy should take into account the establishment of short-term production goals to increase the production outputs. Long-term goals can then be based on these short-term goals. Spatial arrangements and long-term management plans are also some of the vital community forest activities that can positively guarantee healthy conditions of community forests.

Namibia's population size was latest recorded at 2.3 million (Trading Economics, 2012). Interestingly, Namibia is ranked as an upper middle income country with a Gross National Income (GNI) of US\$4,200 by the World Bank Atlas method. These statistics are revealed by the GNI coefficient of Namibia for 2008 which is based on a GDP per capita. Furthermore, Namibia has achieved a fairly high level of development with a GDP per capita income of N\$6,410 which is equivalent to US\$591.924 (Bertelsmann, 2012, World Bank, 2009 and Kanyenze and Lapeyre, 2012). Therefore, the government can definitely afford both financial and technical supports for rural community projects to mitigate poverty. That is why Kojwang and Chakanga, (2001) suggested that if the forest resources and their management are well sponsored and harnessed they could yield enough outputs for forestry development in Namibia.

5.6 Summary

This chapter discusses the main research findings concerning the national forest policy in details and relates them to the previews similar studies conducted in Namibia and other countries worldwide. It also gives recommendations on the necessary amendments of the policy. The following chapter briefly gives the conclusion of the whole study.

CHAPTER SIX: SUMMARY AND CONCLUSION

This chapter gives a summary of the whole study. It also outlines the identified gaps for further researches. For instance, this study did not give much emphasis and statistical data on the forest status and conditions in terms of species composition, growing stock and stand structure of the study area.

Regardless of an abundance of various NTFPs, Namibia has poor forest cover of about 10% of the country's total surface area. This is why the forest sector does not contribute splendidly to the GDP. This is the chief reason why the government tends to pay little attention to the forest sector. Instead, the national forestry policy has granted community people management and equal benefits sharing rights over the forests. Such rights and empowerment help tremendously in combating deforestation, and to some degree, rural poverty. This is mainly because about 90% of the rural communities use forest resources for their livelihoods on a daily basis. Therefore, this heavy reliance of the poor rural inhabitants upon community forest resources is one of the main challenges the degraded environments of Namibia are facing.

The forestry policy of Namibia still has to do more in order to positively impact rural development and poverty alleviation. Urbanization is developing at a higher rate in rural areas of Namibia, but still it will take a couple of years for the poor to keep pace with most of the urbanization services. However, if local people and policy makers do not take advantage of urbanization to turn the forest into recreation, tourism attraction and research centers; this might result in increased poaching and illegal logging by the poor rural residents. Rural communities of Namibia have potentials to improve their livelihoods from forestry resources, most especially NTFPs. Economic feasible community forest products are like medicinal plants, cosmetics, art crafts etc. However, inadequate financial and technical supports, lacking monitoring and inspections are the principal threats that lead to decreased community forests production outputs, illegal harvesting and poaching.

Community forest outputs and demands are expected to drastically decline to zero if no immediate actions are taken to encourage and support well monitored forested-based

enterprises. And once this happens, there will be an enormous risk of deforestation as there will be no more sufficient outputs from which FMC and TAs who manage and monitor community forests get their wages. This will discourage them in carrying out their duties effectively. Furthermore, there is an urgent need of projects like CFN and donors to fund and promote small-scale forest-based enterprises.

Another concern is that, the policy should establish and advocate regional cooperatives whereby community forests can register their interested members (those who are keen to become part of such establishment to produce and sell products as cooperatives). Forestry policy should also allow and facilitate community forests to participate in various regional or nationwide trade fairs. This can make them discover what type of products customers demand the most.

If rural communities are advocated and supported in any possible manners to create their small-scale entrepreneurships and jobs for themselves, this will alleviate rural poverty, and to some extent, reduce the problem of overcrowding in urban areas where young unemployed people from rural areas migrate to in search for jobs etc. It is for this reason evaluations of the ratio of the rural well-off to the poor should also be conducted; in order to give the statistical information of the poor and unemployed rural residents who benefit more from community forest products. This will help the government to appropriately budget for rural community development projects. There is also a vast need of statistical data for the incidents of illegal harvesting and poaching in community forests. Policy makers and rural communities also need to be alerted of the most likely danger of increased illegal logging and poaching if FMC and TAs are not supported and encouraged. Therefore, numerous researches of this kind are of a vital importance.

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