



**Midlands State University**

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**FACULTY OF ARTS**

**DEPARTMENT OF DEVELOPMENT STUDIES**

**THE IMPACT OF THE COMMERCIALIZATION OF INDIGENOUS FOREST  
PRODUCTS ON RURAL LIVELIHOODS. A CASE OF HURUNGWE NORTH.**

**SUBMITTED**

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**APPROVAL FORM**

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## **DEDICATIONS**

This work is dedicated to my parents.

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## **ACRONYMS**

FAO..... Food and Agricultural Organization

NGO.....Non- Governmental Organization

WHO..... World Health Organization

IFPs.....Indigenous Forest Products

## **ABSTRACT**

*The indigenous forest resources formed the basis of rural people's livelihoods since time immemorial. The importance of these indigenous forest products led to their commercialization in different parts of the world. This study focused on the impact of the commercialization of indigenous forest products on rural livelihoods in Hurungwe North. A number of indigenous forest products have been commercialized. These include a variety of products which are being sold as food, medicines and others. These products include indigenous fruits, vegetables, honey and a variety of products which are being made after processing the forest products. These processed products include household furniture, baskets and mats. Interviews, focus group discussions and questionnaire were used to collect the data in Hurungwe North. The researcher found that, the sale of indigenous forest products such as honey, mats, and wood products is earning the rural people incomes which allow them to access the basic needs. The sale of some of the products such as fruits and vegetables is earning the rural people less income to access the basic needs. In commercialization the indigenous forest products the rural people in Hurungwe North are being challenged by poor transport, unreliable markets and exploitation by the middlemen. Exploitation and sale of the indigenous forest products is leading to problems such as overexploitation of the resources. Rural people should engage in some conservation strategies to avoid the overexploitation of the resources. In order to ensure the profitability of the commercialization of the indigenous forest products the rural people should be taught some basic financial management skills.*

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# **CHAPTER 1**

## **1.1 INTRODUCTION**

Rural people's livelihoods have long been regarded as solely based on agriculture and agricultural based livelihood activities. In Africa especially south of the Sahara desert, governments and Non-Governmental Organisations prioritised crop cultivation and animal husbandry as the rural livelihood activities. In Zimbabwe for instance, post-war government focused on resettlement programmes and agrarian reforms (Moyo, 2000). However, recently there have been natural climatic changes which were characterised by a slight increase in temperatures and a slight fall in the amount of rainfalls in the world. These led to poor performance of the agricultural sector and the increase in the number of poor people because of the resultant underperformance of the dominant agricultural sector and other livelihood activities related to agriculture. Rural households therefore started to engage in other livelihood activities out of agriculture to ensure their wellbeing and in some cases to remain alive. The engagement of people in other livelihood activities led to the changes in the ways in which the natural resources were exploited, consumed and in some cases distributed and exchanged in the societies. This research will focus on the impact of commercialisation of indigenous forest products on rural livelihood.

## **1.2 BACKGROUND OF THE STUDY**

Forests have been important for the rural livelihoods in Sub-Sahara Africa since time immemorial. People from different corners of the continent used forestry products as important natural resources for different livelihood activities. Naturally available forest products were used as food, medicines, shelter and fuel by the rural households in Sub-Sahara

Africa (Kaimowitz, 2003). Forest products form the basis of some communities' livelihoods and development.

In the past people used to depend socially and economically on the forests and forest products. Fruits, mushroom, caterpillar varieties formed the basis of the pre-colonial people's diet in the Zimbabwean communities (Zimbabwean Government online, 2014). Traditional people's diets were based on the gathering of readily available forestry products like fruits, herbs, insects and mushroom in the rural communities. Forestry products were available for free to all members of the communities who stayed in the rural areas. Indigenous forests were communally owned by the people in communities and in a way no one had private ownership rights to the forests. This also means that there was minimal and in some cases, no restrictions placed to individuals in as much as the exploitation on forest products is concerned. Traditionally, elusive rules were put in place to at least control the exploitation of major forestry products and in an attempt to avoid overexploitation of the indigenous forest products (FAO, 2003). This indicates that, forests and forest products were available for the wellbeing and survival of all members of the rural communities.

With the advent of colonialism, there was high movement of people from rural areas to the urban centres to supply labour in newly created towns and cities. This high movement of people from the rural areas to the urban areas created large markets for some of the forest products (FAO, 2013). This is because the African men and women who moved to the urban centres from the rural areas still relied on the supply of the forest products which they used to consume in the rural areas prior to their movement to the urban centres. In most African countries, during the colonial period urban dwellers maintained their relations with their kinsmen and family whom they left behind in the rural areas. The maintenance of these relations between the urban dwellers and their rural counterparts meant that, they continued

to benefit from the supply of various products brought by the kinsmen who were left behind in the rural areas.

In Sub-Saharan Africa, the trade in forest products and the commercialisation of forest products can be traced back to the early civilizations in the continent. During the earliest civilisations there was well defined trade in secondary forestry products like baskets, mats and curved wood sculptures. In the Eastern part of Africa, in countries such as Kenya trading and marketing of secondary forest products such as mats, and baskets was evident long back especially among the Akamba people. The Akamba people for instance who stayed long ago near Nairobi and in Tsavo made unique sculptures from the local wood and weaved sisal baskets which they sold in curio shops, gift shops, and art galleries in Kenya's major cities as well as abroad ([www.kenya-informationguide.com/kamba](http://www.kenya-informationguide.com/kamba)). This indicates that, the importance of forest products as income earning resources is not a new phenomenon. However, in this case the commercialisation of forestry products was restricted to a few areas in which few areas in which the people had a unique skills in the processing of the natural resources into interesting products which attracted a defined markets.

The advent of independence in many African countries was followed by the introduction of controversial development policies like the Structural Adjustment Programs (SAPs). These policies resulted in poverty among many households in the continent since they sanctioned the removal of government subsidies (Chipika, 2000). SAPs era in the African continent was also characterised by a succession of droughts. With this, households turned to forest products which were readily available and easy to process and sell. Forest products became the basis of the diets during time of crises. Following the severe droughts, famines and economic failures in the Post-Independence states of countries like Zambia and Zimbabwe, people from rural areas started to sell unprocessed forest products including fruits, worms, herbs and mushroom (Jumbe et al, 2010). This is because, in most cases forestry products do

not need a lot of processing and labour to be sold. Forest products like caterpillars for instance can be collected from the forest and then sold at a nearby built up areas without much processing needed on them before they are sent to the market and sold. This makes forest products the most convenient source of livelihood for the poor people who neither have skills nor machinery for processing. Thus, forests make the best option for the livelihoods of the rural poor people.

In Zimbabwe as in many developing countries, the increased incidence of power cuts in the cities, towns and Growth Points resulted in the increased reliance on wood as energy source for cooking and heating in most urban centres. These power cuts called for the emergence of trade and commercialisation of wood in rural service centres and urban areas in the country (Scoones et al, 2012). Firewood selling became a common livelihood strategy for the Peri-urban households who concentrated on the cutting of firewood and then transport them to the cities and towns. The availability of large reliable markets also gives more incentive to the households which depend on the collection and selling of the firewood (Scoones, 2012). This is because firewood is readily available in rural areas and is relatively cheaper than other sources of energy like gas and paraffin. The marketing and sale of wood in some areas especially those which were characterised by commercial farming such as Hurungwe North was resulting from a rise in its demand. The increase in number of smallholder tobacco farmers led to a rise in the consumption of wood for curing tobacco. Following the land seizure of the farms by the Blacks through the land reform programme in 2000, the number of registered tobacco growers doubled (<http://www.globalpost.com>). These small scale tobacco growers do not have access to other alternative sources of fuel except for wood. With this the marketing and commercialisation of wood intensified.

The Fast Track Land Reform Programme brought in new livelihood activities in rural Zimbabwe. It brought in some new livelihood activities such as the selling of a number of



indigenous forest products. According to Scoones (2011) the settlement of farmers in new farming areas saw the emergency of the sale of new market products such as *mopane* worms, firewood and a variety of world insects in the rural areas. This also saw the sale of firewood which was cut from the cleared trees and sold to the adjacent communities where there was comparable scarcity and to the built up areas like Growth Points and nearest Service Centres. . These new market products were sold both within and outside the communities of product origin. This indicates the emergence of well-defined commercialization of the indigenous forest products in the rural areas.

### **1.3 STATEMENT OF THE RESEARCH PROBLEM**

Households in Hurungwe North are experiencing a succession of seasonal droughts which renders agriculture inefficient. Most of the households are experiencing acute shortage of food during the wet season. Some of the households are also failing to send their children to schools and schools are also facing high rates of withdrawals because parents are failing to raise school fees. The majority of households are generally failing to meet the basic needs for their members. Some households in Hurungwe North have turned to the collection, processing and sale of the indigenous forest products as a survival strategy. This therefore called for the researcher to carry out this study.

### **1.4 RESEARCH OBJECTIVES**

- Identify the indigenous forest products which have been commercialised in Hurungwe North.
- Establish why the rural people are engaging in the sale and commercialisation of indigenous forest products.

- Establish the impact of the sale and trading in forest products have on incomes of the rural dwellers
- Evaluate the extent to which the commercialisation of indigenous forest products has impacted on the other livelihood strategies in the rural communities of Hurungwe North.
- Suggest how commercialisation of forest products can be improved to enhance the livelihoods of the rural people in Hurungwe North.

### **1.5 RESEARCH QUESTIONS**

- What are the indigenous forest products that have been commercialized in Hurungwe North?
- What influences rural people to engage in the sale and commercialization of indigenous forest products.
- What are the main uses of incomes derived from the sale of indigenous forest products per household?
- To what extent are the financial resources which are being derived from the sale of indigenous forest products transforming the rural people's lives?
- What are the major challenges which are being met in the commercialisation of indigenous forest products?

## **1.6 JUSTIFICATION OF THE STUDY**

This research was done to provide information concerning the impact of commercialization of indigenous forest product on rural livelihoods. The research would benefit a number of stakeholders in rural development and help in improving the body of knowledge in the development of rural areas. These stakeholders include the local people of Hurungwe community, the government, the Non-Governmental Organizations responsible for the rural livelihoods, the academia and the responsible local authorities. Since agriculture alone is proving to be insufficient to cater for the lives of the rural people in Hurungwe North and the country at large, this research helps to unveil the opportunities in the commercialization of indigenous forest products. This offers the rural people with awareness for diversifying into other livelihood activities such as exploitation and commercialization of indigenous forest products rather than solely depending on the cultivation of crops and rearing of domestic animals. For those interested in researching about rural livelihoods and development, this research acts as a stepping stone for them to try and find out other strategies which may be taken for rural households to diversify livelihoods. The research therefore also complements the works of those interested in conservation of the natural forest resources.

## **1.7 DELINEATION OF THE STUDY**

### **1.7.1 PHYSICAL BOUNDARIES**

The study on the commercialisation of indigenous forest products was done in Hurungwe North, Ward 8 and 9 only. The area is situated in the North Western part of Zimbabwe. Hurungwe North is located in Communal lands which are under the authority of Chief Chundu and Chief Kazangarare. Ward 8 and 9 are under the jurisdiction of Chief Chundu and Chief Kazangarare respectively. It is situated near Karoi town about 40 kilometres off the Harare-Chirundu highway. The communities are between the urban areas of Karoi and Kariba. The communities are in Hurungwe District within the Mashonaland West Province in the North Western part of the capital Harare. Only Ward 8 and 9 of Hurungwe North were put under this study. The communities are often affected by periodic seasonal droughts especially during the wet season before the commencement of crop harvesting.

### **1.7.2 CONCEPTUAL FRAMEWORKS**

This study focused on the impact of commercialisation of indigenous forest products on rural livelihoods only. The impact of commercialisation of forest products was conceptualised using the sustainable livelihood framework. The sustainable livelihood framework comprises the relationships between the assets, mediating processes and livelihood activities. Assets can be conventionally divided into natural, physical, human, financial and social capitals. Assets form the basis of the livelihood framework. In other words the wellbeing of a rural household is measured by its access to certain assets and how the household is able to utilize the available assets for its wellbeing and development.

## **1.8 LIMITATIONS OF THE STUDY**

The research might have been affected by some challenges .These include the problems of cultural issues .In this case, people in the community might be unwilling to disclose information ,concerning their livelihoods, some of the information concerning peoples' livelihoods may be too sensitive. Issues to do with rural people's incomes may be too sensitive to be disclosed by the rural poor people. The researcher rectified to this by triangulating data collection methods in order to deal with the problem of sensitivity of the information which the researcher was looking for in this study. A number of data mining methods were employed by the researcher. These entail the use of a number of data mining instruments in a way to find the most suitable instrument which allows people to disclose sensitive information. The data mining instruments were used by the researcher to collect certain types of data which suit the type of the collection instruments to be used.

Another challenge which might have been encountered during the research is limited time. The research was carried out within a short period of time. This might result in some difficulties to the researcher and his research assistants in terms of the time for the actual collection, analysis and presentation of the data. To counter this, the researcher decided to study a small geographical area; in this case, the researcher studied Hurungwe North only instead of studying the whole of Hurungwe District or the whole of Mashonaland West Province. This allowed the researcher to collect data from a reasonable and manageable population. The researcher was also helped by his research assistants in the collection of data. This was done through the help offered by the assistants in the distribution and collection of the questionnaire copies. This meant that, the data collection process became a bit faster than without the help of the research assistants.

The research might also be challenged by the inaccessibility of certain parts of the community. Some corners of the community have very poor road networks mainly due to the fact that the area is heavily undulating with too much streams and rivers. Parts of the community including Chitindiva, Mayamba and Kabidza are well dissected by streams and rivers which make travelling very difficult. All this might have impacted on the nature of data collection in the area. This meant that some valuable information from the people in the remotest parts of the country could have not been accessed. However the researcher resorted to the use of motorbikes to access some of the poorly connected parts of the community such as Kabidza and Mayamba. This allowed the research team to collect as much information as possible from the remote parts of the community.

## **1.9 RESEARCH ASSUMPTIONS**

The researcher went into the field with the following assumptions:

- Respondents would cooperate in the study through giving the data which was needed for the success of this research.
- Respondents were literate and could answer the asked questions in the questionnaire without much difficulty.
- No restrictions would be placed by the traditional authorities to the researcher and his assistants.
- Respondents would be honest and the data which they which the researcher would collect from them was true and reliable.
- There would be little changes in terms of the economic and social environment in the society.

## **1.10 DEFINITION OF KEY TERMS**

### **1.10.1 INDIGENOUS FOREST PRODUCTS**

Indigenous forest products comprise a wide range of goods which are extracted from the forest and grasslands. This involves a large variety of plant and small animal products which can be used by human beings as food, building material and fuel (Belcher and Schreckenberg, 2006). Forest products in this case include a variety of plant products which are naturally found in the forest. These includes a wide variety of fruits like the *uapaca kirkiana* (*mazhanje*) and *masawu*, some mushroom varieties, wood for fuel, a wide variety of small medicinal plant species and wild honey. Some secondary forest products such as the reeds for basket weaving and grass for making hand brushes are of great significance in the rural areas (Shackleton and Shackleton ; 2004). In this research, indigenous forest products were including all primary and secondary animal and plant products which were coming from the natural forests.

### **1.10.2 LIVELIHOODS**

Livelihoods comprise capabilities, assets (including both material and social resources) and the activities required for a means of living. A livelihood is sustainable when it can cope with and recover from stresses and shocks and maintain or enhance its capabilities and assets both now and in the future, while not undermining the natural resource base (Scoones, 1998). In this research livelihoods were simply defined as means of living or the way in which people earn a living using the available resources to improve their life styles.

## **1.11 CHAPTER SUMMARY**

In this chapter, the researcher gave a brief background of the research, situated the research problem, and listed the research objectives and the research questions. The researcher also justified the study and then gave the physical and conceptual boundaries of the research and also gave the assumptions and limitations of this research. The researcher also defined the key terms of this research.



# **CHAPTER II**

## **LITERATURE REVIEW**

### **2.1 INTRODUCTION**

Leedy (1985) defines literature review as published information in a particular subject area, and sometimes information in a particular time within a certain time period. He went on to say that, literature review provide the researcher with a handy guide to particular topic. Therefore literature review is a very important section for providing the researcher with a solid background for the research. Without literature review the researcher may end up making unnecessary contributions to the body of knowledge. This shows that, literature review is very important in making any social science research.

In this research, the researcher will review the works of different authors and authorities. Published works on the commercialization of indigenous forest products and rural livelihoods were reviewed in this research so that the researcher will have a better guideline concerning the impact of commercialization of indigenous forest products on rural livelihoods. Literature obtained from scholars abroad shall be reviewed and a little bit of literature to do with indigenous forest products in African and very little from other places in Zimbabwe which have different conditions with those of Hurungwe.

## **2.2 DEFINITIONS OF INDIGENOUS FOREST PRODUCTS**

Different authorities and authors define indigenous forest products differently. With this there is no a universally accepted definition of indigenous forest products. This means that, a number of definitions are being used to conceptualize indigenous forest products.

Arnold (1998) defined indigenous forest products as a range of both tangible and intangible goods and services that are directly extracted or derived from the woodlands, scrubland, bush fallow and farm bush, and trees on farm as well as forests. Arnold (1998) went on to regard forests as measured not only by the products they provide but also by the non-tangible services they offer. This definition of forest products tends to take into consideration some of the intangible benefits likely to be derived from the products such as the cultural significance of forests and the species which they produce.

According to the Food and Agricultural Organization of the United Nations (FAO, 2000) Indigenous Forest Products are products of biological origin, derived from forests, other wooded land and trees outside the forests. This definition of indigenous forest products encompasses a wide range of plant species ranging from fruit, herbs, mushrooms and a range of secondary plant products. Rodrigo (2004) went on to demarcate indigenous forest products as those organisms that are naturally available in the natural environment. Thus, in this case indigenous forest products should be naturally found plant or animal species which are consumed by human beings for their good.

Since there is a range of definitions of indigenous forest products, in this research the researcher used the definition of indigenous forest products brought forward by FAO (2000). This means that, the non-tangible services derived from the indigenous forest products shall not be included in this study.

## **2.3 COMMERCIALIZED INDIGENOUS FOREST PRODUCTS**

### **2.3.1 INDIGENOUS FOREST FRUITS AND VEGETABLE PRODUCTS**

Chifamba (2011) identified a variety of indigenous forest fruit products which are being commercialized in Buhera Zimbabwe like *Uapaca Kirkiana*. A variety of fruit species constitutes the high percentage of indigenous forest products. These include a number of edible fruits which are eaten raw and some which are processed into certain edible products like marula which is also called *sclerocarya subsp cafra* which are processed by women and sold at built up areas (Shackleton and Shackleton, 2004). Chifamba (2011) indicated that there is a rapid increase in the number of rural people in Buhera who brew marula beer for sale by fermenting the juice of *sclerocarya birrea*. This indicates a great importance of the fruit products in making the much needed products for the market.

According to Akinnifesi et al (2006) in Zimbabwe, a variety of fruits like *Uapaca Kirkiana*, *Ziziphius Mauritiana*, *Parinari curatellifolia* are sold by rural households in a bid to purchase and pay for the basic necessities. According to Sabukeera (2010) there is selling of wild mushrooms collected from the miombo woodlands in Zimbabwe. This indicates that, mushrooms which falls within the fungi group of plant species also falls within the group of the commercialized indigenous forest products in which they are extracted by young boys and women and sold as fresh products. This indicates that there are two categories of indigenous fruits and vegetables, which are those which are processed into different products and the other category, comprise those that are extracted fresh from the forest and eaten raw.

### **2.3.2 MEDICINAL AND HYGIENIC FOREST PRODUCTS**

Rodrigo (2004) says that medicinal plants include remedies extracted from the plants and herbs used as tea extracts, oils and capsules. They include intermediaries in the production of drugs, traditional uses and new drug among others. This shows that, indigenous forest medicines are vital for both the traditional health care and for the modern health care systems which shows that medicinal plants form one of the basic classes of commercialized indigenous forest products.

species every year and Egypt alone is the most important plant exporting country in Africa, and the fifth biggest exporter of medicinal plant in the world. In the early 1990s Egypt exported 11250 tons of medicinal plants per year. This indicates that, indigenous forest medicinal plants make one of the important types of products in the commercialization According to van Andel (2006) African forests export a lot of medicinal plant of indigenous forest products.

According to the Food and Agricultural Organization of the United Nations (2002) medicinal plants is an important commodity in the local market as many people still rely on traditional medicine for their primary health care. In Ethiopia for instance 600 plant species are documented as being commercialized by the inhabitants (Sabukeera, 2010). This signifies that, there are many commercialized indigenous forest products.

According to Sunderland and Ndoye (2004) chewing sticks are one of the most commercialized indigenous forest medicinal products in Africa and commonly extracted in West Africa in places like Ghana. Falconer (1992) also indicated that chewing sticks were extracted from a split of plant species like *Garcinia* and sold within Ghana and abroad where it is used as a hygienic product to clean teeth.

Shackleton and Shackleton (2004) identified the *devils claw (Hapagophytum)* as one of the commercialized indigenous forest products in Southern Africa and used to treat a number of health problems. The devil's claw is a plant species from which humans extract the roots which are commonly used to treat rheumatism and arthritis which accounts for its trade abroad and its international recognition. This indicates that, medicinal plant species occupy one of the most important categories of indigenous forest products in the continent.

According to Sunderland and Ndoye (2004) *prunus africana* a tree occurring in some montane regions of Africa is extracted its bark which sold locally and internationally for its value in treating prostate disorders, Sexually Transmitted Diseases (STDs) and other health problems. Chifamba (2011) also says that, there are a variety of minor forest fruit tree products which are extracted and sold as fruits, leaves, twigs and roots. This indicates that, there are a variety of indigenous forest products which are being commercialized in the continent and abroad because of their medical qualities.

FAO (2002) states that, the ratio of traditional healers to Western trained medicinal doctors, estimated to be 92:1 in Ghana and 149:1 in Nigeria. These traditional healers are responsible for the sale and commercialization of the indigenous forest products within the rural communities. According to Syampungani (2008) also states that various species of plants are being used as medicines in Southern Africa. These medicinal plants are dominantly traded informally traded by four to five hundred thousand traditional healers that dispense medicines and herbal remedies to up to 100 million consumers. These locally traded medicinal plants include a variety of species such as *Albizia antunesiana*, *Julbernadia paniculata*, *Pseudolachnostylis maprouneifolia* and others. They are locally used to treat several ailments, such as constipation, toothache, cold and cough, fever, pains, measles and malaria (Syampungani, 2009). This shows that, the sale and commercialization of indigenous medicinal plants is not only done abroad but in some cases, the medicinal plants are sold

within the communities which show the importance of indigenous forest medicines in the commercialization of the indigenous forest products.

Rodrigo (2004) categorized medicinal plants into products sold as raw herb (dried or fresh) and others which are processed to varying degrees, including tinctures (an infusion of herbs in alcohol) and extracts. This indicates that, there is a wide range of commercialized medicinal plant products in some of the rural areas in the world.

However, since the extraction and processing of the medicines differs, the type of indigenous forest products extracted in these communities may be different from one community to another. This means that the types of medicines extracted by the community may differ from the other communities studied by other researchers.

### **2.3.3 WOOD FUEL AND CHARCOAL**

According to Kalumania (2000) in Sebukeera (2010) wood fuel supports lucrative local trade in Southern Africa where trade in raw wood and processed charcoal is very high among many households in the region. Jumbe et al (2010) says that, in Zambia alone in 1997 alone the Government of Zambia estimated that, about 41000 rural households were fulltime employed in the charcoal production and an additional 4500 people were involved in transportation, marketing and distribution of the products. This shows that, fuel wood and charcoal are the major energy sources from the forest which are traded and commercialized by the rural people from different areas.

#### **2.3.4 WOOD PRODUCTS, TIMBER AND TIMBER PRODUCTS**

According to Abramovitz (2010) Latin American forests provide useful wood products for example round wood (whole logs) which can be processed into building materials or made into plywood products, furniture and exedra. The pulp is used to make paper and boxes. In this case forest become a very rich source of a variety of products and including bark, dyes, gums, latex, resins, shellac, tanning compounds and waxes. These products are produced in bulk in Latin America and then exported to Europe and American countries where they are used in different industrial processes. The extraction, processing and marketing of all these indigenous forest products creates a lot of jobs in the host country. According to Kaimovitz (2003) between 200000 and 300000 people are employed in the timber industry. This shows that, wood and timber products form the basis of commercialization of indigenous forest products.

Demmer and Overman (2001) regard the sale of canoes and wood boards as well defined among the Tawahka men in Honduras. These wood products are usually sold in the locality where they are produced. They are produced from the local tree species and processed before being sold. This indicates that, wood products are of great significance in the commercialization of indigenous forest products in some rural communities.

#### **2.3.5 ANIMAL PRODUCTS AND WILD INSECTS**

Belcher and Schreckenberg (2006) regard game meat and wild honey as important indigenous forest products found in Africa. Sunderland and Ndoye (2006) also indicated that, spot hunting of elephant and sale of the animal products in Zimbabwe constitutes the commercialization of the indigenous forest products in the rural areas. In this case of spot hunting ivory and game meat obtained after killing elephants and other wild animals constitute the main indigenous forest products.

According to Ross-Tonen and Wiersum (2003) animal products such as mascots, bush meat, and skins are the main commercial forest products in Ecuador. Among the Bagyeli people in Cameroon people still depend on hunting wild animals for bush meat and other animal products. This indicates that, animal and animal products are of great importance in as much as the commercialization of indigenous forest products is concerned.

According to Jumbe et al (2010) a variety of indigenous a variety of insects are sold and consumed and sold in Zambia and Zimbabwe. These include a variety of caterpillars and termites that are collected and sold in the rural areas and occasionally in the cities and towns. Out of 300 caterpillar varieties which are extracted in Southern Africa, 30 are tradable. The giant silk moth family (*mopane* worms) variety gained dominance in Southern Africa's markets (Jumbe et al, 2010). This shows that, animals and insect products constitute a variety of commercialized indigenous forest products in some parts of the world.

De Forliart (1999) in Jumbe et al (2010) also says that, termite species were considered better than meat of mammals and birds. In this case these termites attracted a defined market from the surrounding urban areas in Zambia. This indicates that, termites are a very important product in the commercialization of the indigenous forest products.

### **2.3.6 WILD HONEY**

According to Jumbe et al (2010) the North Western Province of the country is the leading producer of Zambian honey with nearly about 90% of the country's honey originating from the Province. According to Belcher and Shreckenberg (2006) wild honey produced by wild bees is also produced and sold in the Eastern Cape Province of South Africa. This shows that, wild honey is one of the commercialized indigenous forest products in the rural areas where it is either sold within the borders of the country of origin and in some cases exported to the other regional countries and abroad.



Wild honey is mainly produced in two seasons a year. These are the beginning of winter and the post rain season when most trees flower. In this case the production and sale of honey is controlled by the flowering of major tree species in the region (Jumbe et al, 2010). This shows that, bee honey is a pure indigenous forest product since it is made by a forest insect bee and a produce made from indigenous tree flowers.

### **2.3.7 ESSENTIAL OILS AND OLEORESINS**

Rodrigo (2004) states that the estimated number of worldwide commercialized essential oils is thought to approximate 300. These essential oils are primarily used as flavour in the industry, fragrances in the cosmetic industry, and their functional properties are utilized in the pharmaceutical industry. These essential oils and oleoresins are produced in Latin American countries and exported to other continents like Europe and North America. The most commercialized oils include mint, lavender and bergamot (Rodrigo, 2004). This indicates that, oils form another basic category of commercialized indigenous forest products.

### **2.3.8 SECONDARY INDIGENOUS FOREST PRODUCTS AND HANDICRAFTS**

According to Shackleton and Shackleton (2004) grass hand brushes and twig hand brushes and reed products also form the basic commercialized indigenous forest products. These products are the products made from the basic indigenous forest products such as grass, twigs reeds and sisal. They are made from the forest products and sold after the individuals do some form of processing of the primary forest products. Shackleton and Shackleton (2004) also indicated that, these secondary indigenous forest products are being sold in the urban centres of Eastern Cape, in South Africa.

Sebukeera (2010) regard secondary forest products as products of craft industry. In this category therefore, woodcarving products and basketry products were also included. According to Waithaka and Mwate (2003) in Sebukeera (2010) in Kenya alone, the woodcarving industry supported about 80000 people with 400000 dependents in 1995. This shows that, commercialization of indigenous forest products does not necessarily limited to the commercialization of the primary forest products.

## **2.4 DEFINITIONS OF RURAL LIVELIHOODS**

According to Chambers and Cornwall (1992) a livelihood comprises assets (stores, resources, claims and access) and activities required for a means of living. A livelihood is said to be sustainable when it can cope with and recover from stress and shocks, maintain or enhance its capabilities and assets, and provide sustainable livelihood opportunities for the next generations, or which contributes net benefits to other livelihoods at the local and global levels and in the short and long term.

Of all the various components of a livelihood, the most complex and most important is the portfolio of assets out of which people construct their living from (Krantz, 2004). These assets are both tangible and intangible. Scoones (1998) also shared the same sentiments and listed these assets as five capitals; these are human, natural, financial, physical and social capitals. These are regarded as the most important aspects for the people's livelihoods.

According to Warner (2000) rural livelihoods are centred on assets which are the building blocks of livelihoods. These assets are not are not only restricted to natural, physical and financial capitals but there are also social (kinship and networks) and human (nutrition and healthy). A range of these assets is needed to produce outcomes. However, no single category of assets is sufficient to provide all the many and varied outcomes that people seek. In this

case, those people with access to more assets have a greater range of options and an ability to shift emphasis in their livelihood strategies

## **2.5 CHARACTERISTICS OF HOUSEHOLDS AND INDIVIDUALS ENGAGING IN THE COMMERCIALIZATION AND SALE OF INDIGENOUS FOREST PRODUCTS**

Shackleton and Shackleton (2004) indicated that, the labour issues in the commercialization and marketing of the indigenous forest products greatly depends upon the age and sex of the individuals in the communities. They indicated that, participation of individuals in various different processes of the commercialization of forest products and the concentration of an individual in the production, extraction processing or sale of a certain product is directly affected by the sex and age of the individual participants. Women were reported to be involved in the trade in non-wood products more than their men counter parts. However, men are more involved in the trade and commercialization of wood products including poles, fuel wood, furniture, and carvings. This indicates that the commercialization of indigenous forest products is heavily affected by the gender lines in the society. It therefore shows that, participation in the marketing and sale of indigenous forest products is determined by the demographic characteristics of the household and community in question.

According to Clark (1994) in Sunderland and Ndoye (2004) in Ghana about 85% of chew stick trade in Ghana is coordinated by women who organize themselves in hierarchical trading systems under the leadership of the market ‘Queen’ in the large urban markets. Sunderland and Ndoye (2004) also sums up that, women play a dominant role in the marketing and final sale of many products in most parts of the world. This indicates that, women play major role in the trading of most indigenous forest products and men play a minor role. This indicates that, the labour statistics are gendered in many instances which

may affect the initiative for rural people to engage in the commercialization of indigenous forest products.

John (2005) indicated that, in the Caribbean Islands the exploitation and processing of the indigenous forest products involves the labour of men and women in the 50-70 age groups who have limited livelihood options available for them. The harvesting and processing of the products also involves the labour of the children. Involvement of children in the provision of labour is very vital for the passing of skills and traditions from generations to generations. This will mean that the commercialization of indigenous forest products in the future greatly depends upon the current labour supplies.

Byron and Arnold (1998) regarded the involvement in the commercialization of forest products in rural areas as a preserve of the poor households and individuals in the communities. They also said that, the poor men and women on one hand are most likely to engage in the commercialization of different forest products. The richer households on the other hand are less likely to be involved in the commercialization of the forest products. This indicates that these scholars regarded the engagement of households into the commercialization of forest products as indirectly dependent upon the availability of the assets in the household.

According to Rodrigo (2004) researchers found that, engaging in the exploitation and selling of the indigenous forest products is pursued by the workers who find themselves between jobs and, by individuals whose employment opportunities are chronically limited by age, gender, and/ or disabilities. This shows that, the engagement of people in the selling of the indigenous forest products is done by individuals as a safety net or a desperate step because of poverty and desperation.

It is therefore showing that, the extraction, processing and sale of the indigenous forest products is gendered and in some ways depending on the nature of the society in which the indigenous forest resources are found. This will mean that, the nature of the households engaging in the sale of the indigenous forest products may heavily depends upon the cultural traits of the community members. This means that, a knowledge gap concerning the characteristics of the household involved in the commercialization of the indigenous forest products still exists.

## **2.6 TRADING AND SALE OF INDIGENOUS FOREST PRODUCTS**

### **2.6.1 LOCAL MARKETS**

The World Bank (2000) says that, the sale of most indigenous forest products is done locally. It indicates that, the majority of the products are produced, processed and marketed locally since the demand for most indigenous forest products is usually localized. Rodrigo (2004) also indicates that about 80% of the indigenous forest products are sold at local markets. This shows that local markets are so much significant for the trade and commercialization of the indigenous forest products in the world.

According to Sunderland and Ndoye (2004) local markets are very important and of great value for the rural people since the setting of prices between the harvester (seller) and trader (buyer) are based on the bargaining to reach an equilibrium price. These prices are usually found somewhere between the lowest price the seller is willing to accept and the highest price the buyer is willing to pay. John (2005) also local markets in the Caribbean Islands are usually informal and in most receive very little or no attention at all from the governments, private sector and the Non-Governmental Organizations (NGOs). This also tends to show that, there is minimal or control in the ways in which the prices are set and how products are sold.

Ndoye et al (1999) says that, the local markets for most indigenous forest products are very thin in Africa. This means that, they easily respond to shocks for instance, a small change in production (supply) has a large effect on the quantity marketed. Jumbe et al (2010) also regarded most of the local markets of indigenous forest products as seasonal. This means that, these markets are only found during the seasons in which the product is exploited and then disappear when the product is out of season. This indicates that, local markets of many indigenous forest products are unstable and far from being fully fledged.

## **2.6.2 REGIONAL AND INTERNATIONAL MARKETING OF INDIGENOUS FOREST PRODUCTS**

According to Falconer (1992) there is important international trade in indigenous forest products in West and Central Africa both between neighbouring countries and with countries outside Africa. This is because there are indigenous forest products like oils and nuts which are valued in countries outside the continent. Indigenous forest products from African forests are therefore found on the markets in the countries within the continent and abroad. This will definitely impact on the nature of the exploitation on the source region.

John (2005) characterized regional and international markets as well controlled and relatively formal compared to the local markets of indigenous forest products. These international markets receive a bit of attention from the government and the private sector organizations. According to John (2005) the business sector of indigenous forest products involving international markets involves a bit complex export arrangements. In the case of the Caribbean international marketing receive direct financial support from the government or the private sector. For example Kilinago 'carb' communities craft producers in the Dominica with the support of the Dominica Export Import Agency (DEXIA). This distinguishes the international marketing of the indigenous forest products from the local or domestic

marketing. These initiatives for instance will impact on the incentive for the rural people to engage in the sale of indigenous forest products.

International and Regional trade in indigenous forest products is said to have a higher value compared to local trade patterns. For example *Bachylaena huillensis*, used in woodcarving in Kenya had a market value of more than US\$10 million per year (Ruiz-Perez et al, 2000). This was said to be much higher compared to those fetched on the local market. This indicates that, international trade in indigenous is very crucial.

## **2.7 REASONS FOR THE COMMERCIALIZATION OF INDIGENOUS FOREST PRODUCTS**

Belcher and Schreckenberg (2006) cited that, in the environment and development dialogue of the late 1980s and especially following the post-Rio 1990s, the term Non Timber Forest Products (NTFP) was first brought to public attention in the form of the rainforest crunch and became literally the flavour of the day. These conservation and development organizations in the tropical rainforests promoted the idea that indigenous forest product (NTFPs) production and trade had the potential to supply local people with sufficient incomes to provide them with incentives to maintain the forests. This indicates that, the engagement of the households in indigenous forest products commercialization is a result of the push coming from the environmentalists.

Tabuna (1999) indicated that, international and regional trade in indigenous forest products is being necessitated by the past and current migration patterns, that is, many countries in Europe and North America have important communities of migrants from Africa. For example indigenous forest products such as *Dacryodes edulis*, *Gnetums*, *Ricinodendron heudolotti* and *Irvingia* are found in shops specialising in tropical products in Brussels, Lisbon and Paris. These products are being marketed there so as to be consumed by the

people of African origin residing in those places. This indicates that, international trade in indigenous forest products is being caused by the movement of people to other parts of the globe who then decide to continue to look for those products which they once consumed prior to their migration.

Straatmann et al (2006) also supports the view that, commercialization and trade in indigenous forest products is a brain-child of those involved in the conservation of the environment. It was realized that, the communities along the Madeira River in Rondonia state in Brazil were vital in the preservation of large adjacent rainforest areas because of the benefits which they were accruing due to the commercialization and trade in the locally available indigenous forest products. This may be due to the fact that, if the people are realizing the benefits of the forest products, they will be more likely to subscribe to the conservation and wise use of the resources so that they will continue realizing those benefits. This shows that, in one way or the other, the commercialization and trade in indigenous forest products is coming as an idea being pushed for by the environmentalists.

According to FAO (1995) from the livelihood perspective, the commercialization and trade in Non-Timber Forest Products (NTFP) has the potential of increasing incomes and employment especially for the poor households. With this perspective, it is believed that, the commercialization and trade in Non-Timber Forest Products in the locality will improve the poor people's chances of earning better livelihoods. This is because, by such engagement in the collection, processing, storage and trade of the forest products they will get better incomes and thereby improve their livelihoods. In this case the commercialization and trade in indigenous forest products is coming into practice as a result of desperation.

Sunderland and Ndoye (2004) regarded the commercialization and international trade in indigenous forest products as a reaction to opportunity in the form of creation of high value



international markets for a number of Non-Timber Forest Products which developed from migration of people from Africa to Europe and North America. These people are very much prepared to pay for the genuine African products. This thereby led to the high demand for Africa spices and condiments in the European and North American states which would result in their increased production and processing in Africa for trade. This tends to show that, the commercialization and trade in indigenous forest products is caused by the availability of opportunities created because of the movement of people from one place to which creates demand in the receiving place and thereby force the sending place to produce more goods for its population in the diaspora.

Ruiz-Perez et al (2000) accounted for the trade in certain indigenous forest products as being caused by linguistic and cultural reasons. He indicated that, it is common to find close ethnic groups living in both side of a certain given frontier, consuming similar products and with significant trade among them. This is because people with similar cultural and linguistic backgrounds usually consume same products as food, medicines and building materials. This then necessitates trade if the product is available in one side of the frontier so that, there would be a better distribution of the resource throughout the area occupied by people of a certain cultural or linguistic group.

According to Sunderland and Ndoye (2004) the trade in indigenous forest products has caused or necessitated by the eco-physiological reasons. They also say that, the production of some indigenous forest products is highly seasonal such as *Dacyodes edulis* production is from June to November in countries like Cameroon and Nigeria and from November to April in Angola, Congo, Democratic Republic of Congo and Gabon. This seasonal variation throughout the region stimulates trade among the countries. This is because, those places which would have seasonal shortage of a product will have to receive it through trade from

other places which have a comparative seasonal advantage. This indicates that, seasonal variations have a bearing on the trade and commercialization in indigenous forest products.

According to Oliver (1999) the increase in tourism to the African continent over the past 20 years has led to increased demand for art and craft items, particularly baskets and woodcarvings. This resulted in the relative importance of the woodcarving and weaving industries in the African continent. Thus, the increased production of art and craft items and the proliferation of roadside markets for woodcarvings is a direct result of the increase in tourism in the African continent and abroad. This also tends to support the view that, the commercialization and trade in indigenous forest products is a result of opportunity than desperation.

These researches show that, the reasons for the commercialization of the indigenous forest products are different depending on the types of communities in which the individual households are situated. This means that, the reasons for the commercialization of the indigenous forest products in other parts of the world might be different from those in other rural localities.

## **2.8 BENEFITS DERIVED FROM THE COMMERCIALIZATION OF INDIGENOUS FOREST PRODUCTS AT NATIONAL AND REGIONAL LEVEL**

Jumbe et al (2010) noted that, in Zambia, indigenous firewood provided 70% of the country's energy needs. This indicates that, firewood as an indigenous forest product contributes a lot towards the country's economic wellbeing and development. This is because such high dependence on indigenous forest fuel wood has the potential of reducing the demand for other expensive sources of energy like electricity, petroleum and gas. In this case, there will

be minimum competition between the domestic needs and industrial needs for Zambia. With such a high consumption of indigenous forest's fuel wood, Zambia will find it a bit easier to adequately supply electricity to the country most important copper industry since most electricity and other alternative sources of energy will not be channelled towards domestic consumption for cooking and heating. In this case, indigenous forest products are important for the economic wellbeing of the country and the region at large. However, this contribution towards national and regional economic wellbeing is remaining neglected in most parts of the world.

Oksanen and Mersmann (2003) also noted that, the forestry industry and the commercialization of forest products is of great importance in as much as the issues to do with countries' employment is concerned. It is estimated that, worldwide between 200 000 and 300 000 people are directly employed in the commercial timber industry. Byron and Arnold (1998) also pointed that, in 1991 about, 237000 people were employed in small wood working, carving, fuel wood, and cane and grass product enterprises. The sale and commercialization of forest products act as an incentive for both the government and the rural people to engage and find them employed in the forest industry. When these employment statistics in the commercial timber industry and small-scale industries are combined they produce a high number of employment statistics. The most important category of these employment statistics is made up of those in the small-scale industries since it remains unmentioned by most scholars and researchers. This shows the great value of the forest products to the economic wellbeing of the country in question.

Chifamba (2011) also shared the same sentiments when he indicated that, in communities such as Buhera in Zimbabwe, forestry products especially indigenous fruits demands labour for collection, preparation, transportation, processing and sale. This creates occupation for the rural poor women and men. Though seasonal, these employment trends have the potential of

reducing the national demand for the jobs and help to reduce escalating figures of unemployment in the country. This means that, in this case, employment in the collection, preparation, transportation processing, and sale of the indigenous forest products by the rural poor is acting as a safety net for the governments with problems of high unemployment statistics. However, most governments and private sector authorities are neglecting these contributions as informal and irrelevant for the economic and social development of the country and the region at large.

According FAO (2013) for some countries, the forestry sector is an important foreign exchange earner for example between 1993 and 2002, the value of net exports of various wood-based products from countries in Sub-Saharan Africa amounted to more than 2 billion US dollars. This indicates that forest products form the basis of the national economy. This signals the importance of indigenous forest products in the economic well-being of the countries, region and the continent. This means that forest resources are of high significance in the wellbeing of the states.

According to Abramovitz (2010) forests provide useful products for national industry. This is because forests are a reliable source of numerous non wood products including bark, dyes, gums, latex, oils, resins, shellac, tanning compounds and waxes. Fruits, nuts and berries are harvested to boost the world food demands while other products are important for the world's consumption. Abramovitz (2010) further states that, forests are a source of world's wood products. These include round wood (whole logs) which are processed into building materials for the development of towns and cities, or made into plywood products, furniture, and exedra. Pulp is also used to make the world's paper and boxes. This indicates that, the world is heavily depending on the forest products.

Rodrigo (2004) also indicated that, internationally the world trade in indigenous non timber forest products is estimated to be around 11 billion US dollars. This is because around some 150 indigenous non timber forest products are being traded internationally including 26 essential oils. This indicated that, these indigenous are very crucial for the economy of the states by acting as major foreign currency earners. This indicates that in some parts of the world, these indigenous forest products are very significant for the economic progress of some of the countries in the world.

According to the FAO (2013) indigenous forests provide raw materials for large scale industrial processing. This tends to support the view that, forests are of great importance in the wellbeing of most countries' economies and industries. This is because by providing many raw materials these forest products help to create employment for the locals and also help in reviving the production and exchange of the countries.

The World Resource Institute (2008) in Abramovitz (2010) also states that the discovery of the drug *vincristine* and *vinblastine* which were developed over the past 20 years from wild periwinkle found in Madagascar and its dramatic effectiveness in the treatment of leukaemia a form of cancer. This shows that, forests are a good source of highly needed medicines for treating some dangerous diseases and indicates that, forest products are very important in maintaining the world's health and thereby ensuring the health of productive population.

## **2.9 INCOMES EARNED FROM THE SALE OF INDIGENOUS FOREST PRODUCTS AT HOUSEHOLD LEVEL**

According to Arnold (1998) earnings from indigenous forest products are very important as a complement to other income earning activities. He indicated that, very large number of households generate some of their income from selling forest products, often on a part time basis when their farm production is not enough to provide food self-sufficiency all the year

round. This may be due to the fact that much of the forest based forest income is seasonal. Therefore, the income is seasonal based and not really sufficient for the wellbeing of the households. Thus, rural households collect process and sell indigenous forest products and obtain cash which they use to purchase food for household consumption. This indicates that, in some communities' forest products help rural households to have access to cash income which is important for household wellbeing and development.

Rodrigo (2004) indicated that, in Colombia most rural households draw more than 50% of their incomes from the sale of indigenous forest products in the locality and abroad. Households in Colombia were benefiting from the sale of indigenous forest products such as fruits and most importantly oils. Puustjarvy et al (2005) also estimated cash income from the sale of indigenous forest products in the Luapula Province to be in excess of ZMK389, 848 and income from the sale of rattan alone to be exceeding fifty per cent of the average household income. This helps to show that, through the sale of indigenous forest products in the rural areas, households get access to their financial resources.

According to Waithaka and Mwate (2003) in Sabukeera (2010) says that, the sale of products from woodcarving industry in Kenya supported about 800000 people and was worth US\$8.21 million in 1995. These values indicate a favourable income inflow in households if there is a fair distribution of incomes within the households.

Sunderland and Ndoye (2004) indicate that, the income earned from the sale of indigenous forest products by a household is directly affected by the demand of the product at the market for instance a highly recognized product at the international market like *Gnetum*, *Dacryodes edulis*, *Ricinodendron*, *bachylaena* used for woodcarving in East Africa have high incomes for households. The incomes earned from these products per year of US\$10 million were higher than the value of firewood or charcoal (Sunderland and Ndoye, 2004). This shows

that, the income earned from the sale of an indigenous forest product is directly affected by the demand and the international recognition of the product. In this case those products which are internationally recognized have very high incomes and thereby directly result in higher incomes for the households involved compared to those which are only locally recognized.

According to Shackleton and Shackleton (2004) in South Africa the financial returns from trade in indigenous forest products are variable, depending on the on resource type and hours worked, but for most indigenous forest products incomes are typically low and only there to complement the incomes earned from other livelihood activities. The income earned by brush traders near the King William's Town in Eastern Cape (R356 per month) is below the minimum living level (Shackleton and Shackleton, 2004). This indicates that, in South Africa, cash incomes which are earned from the sale of indigenous forest products are not sufficient to influence the household's wellbeing.

According to Jumbe et al (2010) in the sale of honey in Zambia is earning an income of around US\$100 per year. This income is very low if considering the World Bank's poverty datum line (PDL) is by many times higher than that income per household. This indicates that, the sale of indigenous forest products in some cases is so low that it can hardly sustain a decent livelihood in rural areas, unless if it is there as a complement to the other major livelihood activities like agriculture and mining.

According to Arnold (1998) it is very difficult to value the incomes obtained from forests products since incomes from the forests also include the income that is obtained from the sale of crops or livestock which forest nutrients or fodder are essential. In the Sundarbarns mangrove forest of the Bangladesh for instance, there is need for financial evaluation of income from boats built from local mangrove wood which are used for fishing which helps to improve the cash inflow for the households (Arnold, 1998). This indicates that, the income

derived from forest products when using this criteria is very high and in some cases make the largest percentage of the communities staying in and adjacent to the forests.

According to Byron and Arnold (1999) the incomes which are derived from the sale of indigenous forest products are not only limited to those directly earned from the sale of the products by the sellers. They also include those that are earned through the wages of those employed in the primary processing of the products and in logging. However in most cases, these jobs go to the outsiders. This indicates that, the valuation of the incomes derived from the sale of indigenous forest products are very difficult to be quantified. This is also said to be dependent upon the nature and types of the products which are produced in the locality.

Cunningham (1997) reported that people who participate in caterpillar collection earned an average of US\$50 per person from the sale of caterpillars and such earnings are equivalent to month's labour in some parts of Southern Africa. This indicates that, the sale and commercialization of indigenous forest products is influential for some of the rural people to earn their incomes.

According to Ross-Tonen and Wiersum (2003) as far as the Bagyeli people in Cameroon are concerned who depend to a large extent on hunting and gathering of gathering, hunting provides an average of 90% of their incomes. This indicates that, the sale and commercialization of indigenous can produce a high income for some people in some parts of the world.

Leakey et al (2005) pointed out that the harvesting of indigenous tree fruits from the wild can boost rural annual income by US\$300 to US\$2000 per household. This estimated income indicates that, the sale of indigenous forest fruits is essential for the financial wellbeing of the rural households. Considering that in some instances, the sale of the indigenous forest



products is being complemented by other income earning activities, commercialization of the indigenous forest products remain vital in some rural localities.

This shows that, there are no universally accepted average incomes which are being earned from the commercialization and sale of the indigenous forest products. In most of these studies, the incomes are very much unclear. This means that, there is a knowledge gap concerning the incomes earned from the commercialization of indigenous forest products in rural areas. This thereby calls for the investigation of the incomes earned from the commercialization of the indigenous forest products.

## **2.10 USES OF THE INCOMES DERIVED FROM THE SALE OF THE INDIGENOUS FOREST PRODUCTS AT HOUSEHOLD LEVEL**

### **2.10.1 AGRICULTURE**

According to Chifamba (2011) in Buhera, Zimbabwe, the sale of fruits like *Uapaca Kirkiana* have been sold by the rural households and contribute to the needed cash for the purchasing of farm inputs which comprise agricultural tools and farm capital. Sunderland and Ndoye (2004) also indicated that, in Zambia the sale of honey during the pre-rainy season period (September-October) is very vital for the following agricultural season through allowing rural household to purchase seeds, tools and other farm implements for the households. This shows that, though appear to be non-farm livelihood activities commercialization of indigenous forest products help to reinforce the agricultural base of the households.

Arnold (1998) also indicated that, in many parts of the world, income from the forests is used to purchase farm inputs and contribute to the livelihoods to purchase seeds, hire farm labour for cultivation or generate working capital for trading activities. This indicates that,

indigenous forest products are in some cases vital for households' investment and capital accumulation.

### **2.10.2 EDUCATION**

According to Koziell and Saunders (2001) in Chifamba (2011) the brewing fermenting of marula from fruits like *sclerocarya birrea* and *caffra* by the rural households in Buhera is fundamental in providing additional options for income generation or in meeting specific cash needs such as school fees. Chifamba (2011) also indicated that, income from the sale of the fruit tree products in Buhera brings out the income at a time when there is high demand for cash for school fees, books and uniforms when the reserves are low following Christmas holidays. This indicates that, the incomes derived from the sale of the indigenous forest products are vital in supporting the households' education and social wellbeing.

### **2.10.3 FOOD SECURITY**

Akinnifesi et al (2006) regarded the selling of a variety of fruits like *Uapaca kirkiana* and *parinari curatellifolia* in Zimbabwe as very crucial in the purchasing of staple food and other household goods. Chifamba (2011) also indicated that, the sale of indigenous fruits in Buhera help rural households to raise cash to buy food when the production of maize and millet fails. Thereby the adoption of the commercialization of indigenous forest products as a safety net in rural areas. This means that the sale and commercialization of indigenous forest products is regarded as of great importance in the maintenance of the household's food reserves in some parts of the continent.

### **2.10.4 OTHER USES**

According Ndam and Ewusi (2000) in Sunderland and Ndoye (2004) the impact of income of the income improvements through the sale of a medicinal product, *Prunis africana* have been

easily noted by the contribution of villagers to certain pending development projects. This means that, the commercialization of the indigenous forest products in some rural areas have been adopted as a livelihood option and for the strengthening of other livelihood options and for a more livelihood secure households.

According to Shackleton and Shackleton (2004) income from the sale of the indigenous forest products in Eastern Cape Province of South Africa, is used to cater for some uncertainties. These events include some like the death or retrenchment of the head of the household or the breadwinner, droughts, floods, frosts or diseases leading to crop failure or the death of livestock, major economic Structural Adjustment, or unanticipated and large increases in costs of staple foods and goods. This is because, during such times it is common that rural households would turn to the forest products to tide them over what they perceive is a temporary setback (Shackleton and Shackleton, 2004). This shows that, income from indigenous forest products is used as a safety net when there are uncertainties in a rural household.

Chifamba (2011) also indicated that, in Buhera increasing number of farmers are engaging in the sale of their forest products in a bid to compensate for the shortage of incomes following the loss of cash crops because of drought and climatic changes. This indicates that, the sale of indigenous forest products help rural households to purchase some of the households' basic needs in bad times and thereby acting as a safety net for the rural households.

## **2.11 CONSTRAINTS TO COMMERCIALISATION OF INDIGENOUS FOREST PRODUCTS IN RURAL AREAS**

### **2.11.1 PRIORITIZATION OF AGRICULTURE**

According to FAO (2003) although 5% of the African forests are designated as protected areas, the management is not commensurate with their conservation status. Encroachments, illegal logging and grazing are common. Agriculture expansion and grazing are major activities which account for the loss of vegetation cover especially in Eastern, Southern and Western Africa. This put the households engaging in the commercialization of the indigenous forest products at a disadvantage because of the losses which they would suffer.

The World Resources Institute (2010) in Abramovitz (2010) states that, only about 22% of the world's (old growth) original forests cover remains intact due to massive deforestation in the world's major forests for road construction and human settlement. The rate of deforestation in the world is very high to an extent of 2% in Latin America and 0, 8% in Africa. FAO (2001) also estimates the rate of deforestation in Zambia to be at an alarming high rate of 851 000 hectare per year and accounting to more than 50 per cent of the total deforestation in the Southern African region. These rates are attributed to the shifting cultivation (*chitemene*) system which is practiced in Luapula and Central Province. This indicates deforestation for agriculture, industrialization and road construction is leading to disappearance of forests and subsequent loss of the available forest products in the world

According to Gram (2001) the governments' emphasis on exotic crops such as sweet potatoes, groundnuts beans, and cassava has displaced the indigenous forest fruit products. This is because the forest areas which were once covered by indigenous fruit trees and other species would now be converted for the cultivation and resultant growing of exotic plants.

This would mean a sharp fall in the area under indigenous forest products in favor of the exotic species cultivation. This results in the fall in the number of indigenous plant species and creates problems to those who are involved in the management of the resources.

According to Rodrigo (2004) in Colombia, thousands of hectares of forests have been cleared in favour of illegal crops such as cocaine, marijuana and poppy. In the case of cocaine, it is estimated that, two hectares of forest are depleted for every hectare of cocaine. This deforestation in a bid to produce other crops at the expense of indigenous forest products accelerates the rate of biodiversity loss and degradation of the ecosystems

### **2.11.2 ECOLOGICAL AND CLIMATIC CHANGES**

According to Delang (2006) the excessive climatic conditions and unstable ecosystems make it very difficult for the production of wild food plants throughout the world. Shugat (2003) also say that, human induced climatic changes in the United States of America is likely to drive the migration of tree species Northwards in the American forests. Temperature rise is likely to increase fire risks in areas that are experiencing increased aridity, and climate change could promote the proliferation of diseases and pests that attack tree species. These disturbances may have detrimental impacts to forests themselves. This shows that, climate changes affect the management of indigenous forest products in some areas.

### **2.11.3 CULTURAL RESTRICTIONS**

According to Shackleton and Shackleton (2004) in some Zimbabwean and South African communities the exploitation of some forest species is highly restricted because of certain customs. In the Eastern Cape and Limpopo Provinces of South Africa research in the 1990s indicated that the exploitation and sale of the marula beer a product of an indigenous fruit called *sclerocarya birrea subsp caffra*. In the rural areas surrounding the Bushbuckridge

lowveld of the Limpopo Province in South Africa production and marketing of the fermented marula juice is regarded as a taboo. This have the potential of limiting the exploitation and sale of the indigenous forest products by the rural poor people thereby leading to lower returns for the forest products extractors.

#### **2.11.4 EXPLOITATION BY THE INTERMEDIARIES**

According to the World Bank (2000) in the case of products which are traded abroad like oils, the rural people are exploited by the middleman. Straatmann et al (2006) also noted that, for the communities staying along the Madeira River, incomes from the indigenous fruit products are reduced by the intermediaries who buy the products from the communities for a low price and sell to the consumer centres, resulting in riverside communities not earning for their families' subsistence. Jumbe et al (2010) also estimated the farm gate price of caterpillars to be as a low as \$4 per gallon (5 litres) but a high price is charged on the same unprocessed packed product in supermarkets. This shows the exploitation of the rural poor forest product exploiters for the benefit of the powerful individuals and companies who buy the poor's products.

According to Neuman and Hirsh (2000) the extent to which the commercialization of the NTFPs can improve the incomes of the primary collectors has been questioned since observations review that, increased profits do not end up in the hands of the primary producers. This indicates that, the profits of the commercialization of the indigenous forest products help to improve the welfare of the already rich companies and individuals while the rural forest products extractors remain on the receiving end.

### **2.11.5 POOR AND UNRELIABLE MARKETS**

According to Belcher and Shreckenberg (2006) the prediction of indigenous forest products is often dispersed and markets are poorly developed which causes market inefficiencies for products that are traded in relatively small volumes. The wild harvested products in particular can be very unreliable in the quantities, qualities and even location of production due to biology and the vagaries of weather. In Mexico for instance, the yield of mushroom (harvested for sale in Japan) is being affected by the levels of rainfall (Belcher and Shreckenberg, 2006). These market inefficiencies might lead to low incomes to be realized from the sale of indigenous forest products which disrupts the livelihoods of the households depending on the sale of indigenous forest products.

Rodrigo (2004) also indicated that, the international markets for the Non Timber Forest Products (NTFPs) are a risky commercial ground. From one year to another, the products can be produced to another country. If products exposed to the international markets earning higher incomes than the local markets, commercialization and sale of the indigenous forest products remain a risky business to engage in.

### **2.11.6 SEASONAL UNAVAILABILITY OF THE PRODUCTS**

Arnold (1998) says that, much forest based income generating activities is seasonal. Some products can only be gathered at certain times of the year, demand of labour availability may fluctuate seasonally. This indicates that, the sale and gathering of the indigenous forest products is heavily influenced by the seasonal variations and changes.

According to Akinnifesi (2006) the supply of fruits in Miombo woodlands in Zimbabwe is heavily seasonal. Fruits such as *uapaca kirkiana* are seasonal, in which they are harvested for

only 2-3 months every year. This means for the rest of the year those rural households would be out of business.

According to Sunderland and Ndoye (2004) the harvesting of chewing sticks in Ghana occurs during six to nine months of the year (October-March) and rests during the rainy season because of the poor quality of the roads. All this mean a fall in the sales of the forest products and a subsequent loss of household income during the off season.

### **2.11.7 CONFLICTS AND WARS**

According to Sabukeera (2010) in many conflict areas, forest management has been suspended and illegal loggers, even if not directly involved in the conflict, have at times devastated forest resources. This shows that, conflicts and war stops normal exploitation by the inhabitants and lead to illegal exploitation or bio-piracy by the outsiders. This may have the potential of reducing the profitability of the commercialization of the indigenous forest products.

### **2.11.8 LACK OF VALUE ADDITION AND FINANCIAL CONSTRAINTS**

Straatmann et al (2006) indicates that, there is lack of value addition to the products from indigenous forest products. They went on to say that most products from the Brazilian forests are extracted and usually sold with the same characteristics from the forest. This reduces the profitability of the products. Lack of value addition also hinders preservation of some of the perishable products especially fruit products.

According to Straatmann et al (2006) in the tropical rainforest countries like Brazil, some of the households have severe shortage of credit necessary for market entry. This will also mean that, the rural people will hardly send their indigenous forest products to the market in time and resulting in limited profits and incomes.



Shackleton and Shackleton (2004) attributed the low income earning of the small rural producers in the informal sector to lack of credit facilities which is constraining them to expand their businesses. In this case, the producers find themselves unable to accept bulk orders as they may not be able to finance input requirements. In the case of the woodcarvers in the Eastern Cape Province, the carvers are failing pay their assistants because of the lack of financial resources to do so. This will result in the emergence of low income earning households selling indigenous forest products.

Rodrigo (2004) indicated that, the participants of the Magomero and Tabora workshop participants indicated that a lack capital to fund for processing equipment and packaging materials are the main constraints faced by the rural processing groups. This will mean that these constraints effectively prevent rural processing groups from focusing on the production of higher value products such as oils.

#### **2.11.9 LACK OF EXPERTISE IN THE FOREST DEPARTMENT**

According to FAO (2003) there is a worrying in Africa's richest forest areas in general and Central Africa in particular where there is acute shortage of staff and equipment. In DRC which have the largest forest covering an area three times the size of France for instance there were only 100 professional foresters by 2003 (van Andel, 2006). These shortfalls in professionals plus a fall in donor investments and forest education shows international negligence and ignorance towards the forestry industry. This might lead to shortage of knowledge and interest towards the indigenous forest products. It might also lead to the exploitation of the forests by foreign companies instead of the indigenous people.

According to Straatmann et al (2006) there is a general lack of skills and knowledge among the households engaging in the exploitation and sale of the indigenous forest products

especially among the rainforest households. This would mean that, the forest households would not earn much from the commercialization of the indigenous forest products.

## **2.12 PROBLEMS CAUSED BY THE COMMERCIALIZATION OF INDIGENOUS FOREST PRODUCTS**

### **2.12.1 OVEREXPLOITATION AND RESOURCE DEPLETION**

In some instances, the commercialization of the indigenous forest products may be very unsustainable in cases where the harvesting and mortality exceeds the minimal production which leads to the progressive depletion and local extinction of the product (Cunningham, 2000). These threats to the population of the indigenous forest products usually result from overharvesting pressures and lack of effective management of the individual species population. Sunderland and Ndoye (2004) also say that, where the forest products are prized for their wood, wood, roots, or bark, the products are very prone to unsustainable use as harvesting either seriously damage or kills the parent plant. For example the harvesting of those species that partially or wholly strips the bark from live trees such as *pygeum* (*Prunus africana*) and *unemezi* (*cassipourea flanaganii*) exposes the plant to stem-boring insects that can result in considerable post-harvest tree mortality and species extinction. This indicates that, the commercialization of indigenous forest products sometime result in species extinction due to over-harvesting and overexploitation which may lead to the shortage of the product for the generations to come.

Chifamba (2011) also notes that, in Zimbabwe there is minimal and very limited rules regarding the harvesting of the commercialized indigenous forest products which act as a problem to the sustainable usage of the of the indigenous forest products. This is because, most indigenous forest resources are viewed as common property by the rural inhabitants

(Chifamba, 2011). This leads to fierce rivalry among different indigenous forest users who extract from the pool of natural resources. This may lead to the problem of the shortage of the resources for the indigenous forest products for the generations to come.

According to Ross-Tonen and Wiersum (2003) in Latin America, the stripping of bark of *Garcinia lucida* which is used as an additive in palm wine, results in 74% mortality rate in the local forests. This results in the depletion of the species from the locality. This shows that, the exploitation of certain species if not controlled may result in the loss of the indigenous products in question.

## **2.13 CHAPTER SUMMARY**

The researcher reviewed literature concerning the impact of the commercialization of indigenous forest products in rural areas. The researcher reviewed literature from both African rural areas and rural areas from abroad. The literature helped the researcher to have a better understanding of forest products in general and its relationship with rural livelihoods in particular.

## **CHAPTER 3**

# **RESEARCH METHODOLOGY**

### **3.1 INTRODUCTION**

This chapter focuses on the methodology used in this research. The chapter discusses the philosophical school, design, population, and sample, sampling technique, research instruments, and the data collection procedure of this research. According to Blaikie (2000) research methodology refers to the ways in which data was acquired, presented and analysed by the researcher. This chapter will therefore explain the process of how the research was conducted. This means that, the chapter generally focuses on the processes of research conduction.

### **3.2 RESEARCH PHILOSOPHY**

Research is a systematic process of collecting and logically analysing information In order to provide answers questions or offering solutions to prevailing problems. According to Jolla (2014) research is a systematic inquiry that investigates, hypotheses, suggests new interpretations of data or texts and poses new questions for future research to explore. Therefore research is all about answering or offering solutions to new questions. The answering of these problems depends upon the position of the researcher. These positions or philosophies includes the interpretive, positivist, or mixed philosophies. Thus, the data which the researcher produces also falls within the quantitative, interpretive or mixed data depending on the philosophy which the researcher subscribed to.

In this research, the researcher subscribed to the qualitative/interpretive research methodology. Interpretive research is described by Blaikie (1993) as post-positivist since it is contented that, there is a fundamental difference between the subject matters of natural and social sciences. In this study of the impact of the commercialization of the indigenous forest products on the rural livelihoods, the researcher decided to employ the interpretive research method because issues to do with the livelihoods of the individuals or groups is deeply stored in the individual experiences, memories and expectations. This also means that, the research does not set out to test any hypothesis or experiments and therefore will rely instead upon qualitative data. Thus, for clear understanding of these issues, the researcher decided to use a qualitative inquiry.

### **3.3 RESEARCH DESIGN**

According to Teddlie and Yu (2007) research design is a detailed outline of how an investigation will take place. A research design typically includes how data is collected, what instruments are used and the means for analysing the collected data.

Jolla (2014) also defines research design as encompassing the methods and procedures employed to conduct scientific research. Thus, a research design is a detailed plan which specifies the methods used by the researcher for collecting and analysing the data when researching. Research designs include experimental and descriptive research designs.

#### **3.3.1 CASE STUDY**

In this research the researcher used a case study, in which he focused on carrying out his research on a small geographical area. In this case, the researcher only restricted his study to Hurungwe North instead of focusing on the whole of the Mashonaland West Province or the whole country. The researcher decided to use the case study because it allowed him to have

access to detailed data. The researcher avoided to use other research designs since they would not allow the researcher to collect detailed data.

### **3.3.2 KEY INFORMANT**

The researcher also used the data he received from the key informants in this research, these were chosen by the researcher because of the information they possessed concerning the research questions to be answered. The key informants gave their narratives concerning the impacts of the commercialization of the indigenous forest on the rural livelihoods. The researcher therefore recorded the data from the narratives which he got from the key informants through interviewing them. Their narratives were then analysed and presented by the researcher in form of raw texts and as texts analysed by the researcher.

### **3.4 POPULATION**

According to Barreiro and Albandoz (2001) population is the entire group of persons or set of objects and events the researcher wants to study. Thus, population consists of all the persons or objects that are affected by the research variables which the researcher wants to understand. Barreiro and Albandoz (2001) indicated that, it is important for a researcher to demarcate his or population so as to collect the data from the correct respondents. In this research, all the rural dwellers in Hurungwe who are being affected by the commercialization of indigenous forest products form the target population of the researcher. The target population consists of the rural dwellers that are engaging in the collection and sale of indigenous forest products. This is because these rural dwellers that are engaging in the collection and sale of indigenous forest products possess the needed data concerning the impact of indigenous forest products on rural livelihoods. The traditional leaders, the Chiefs and Headmen, Agricultural Extension Officers and a field officer in under the bee keeping projects by Carbon Green of Hurungwe North also formed part of the population but as key

informants. These traditional leaders form the population of this study because they possess better information concerning the availability of the indigenous forest resources. Agricultural extension officers were chosen because of the information they possess due to their better interaction with the natural environment of the locality.

### **3.5 SAMPLE SIZE**

According to Teddlie and Yu (2007) a sample is a selected section of the population which is representative of the whole population. This means that, a sample should be appropriately drawn from the population so as to be meaningfully representative of the total population. Barreiro and Albandoz (2000, 3) says that, “ it is not possible to make an interview to a population of more than 40 million people since it requires a big effort in many fields.....it will be convenient to interview a certain part of the population, a sample.” In this research on the impact of commercialization of indigenous forest on rural livelihoods, it was not possible for the researcher to study all the people in Hurungwe North. A sample of 40 respondents from 40 households was selected out of 300 households which were engaging in the sale of indigenous forest. This make up 13.3% of the population. According to Leedy (1985) a sample between 10% and 20% is advisable. Thus, a sample of 13.3% falls between the 10% - 20% ranges which means that, it is a representative of the population involved in the sale of the indigenous forest products in Hurungwe North.

### **3.6 KEY INFORMANTS**

The researcher also selected a number of individuals with special knowledge concerning the indigenous forest products. These included 3 village heads with special knowledge concerning the indigenous forest products and rural livelihoods in the area. Out of 2 Chiefs in the area, the researcher decided to select 1 of them and will represent the views of the traditional chiefs in the locality. The Chief’s representative was selected on the basis of

possessing rich information in as much as the indigenous forest resources are benefiting the rural people in the locality. The researcher decided to select 3 members from the Agricultural Extension Office working in the communities to represent the views of the people and authorities responsible for the conservation of natural resources. Agricultural Extension Officers were also chosen by the researcher because they are better placed in terms of the understanding of the communities' rural households' and their livelihoods and development. One field officer responsible for the bee-keeping projects under Carbon Green, a certain Non-Governmental Organization (NGO) operating in Hurungwe North was chosen. The field officer was chosen because he possessed very important information about one of the important indigenous forest products (wild honey). This would help the researcher with rich qualitative data about the commercialization of indigenous forest products in Hurungwe North.

### **3.7 SAMPLING PROCEDURE**

Barreiro and Albandoz (2001) sampling is not done for the purpose of convenience only. It is done in a way that, the sample be representative of the whole population under study. This means that, it is important for the researcher to choose a correct sample which suits his or her study.

Teddlie and Yu (2007) indicated there are three types of sampling which are namely probability sampling, non-probability sampling and mixed method sampling. These are used depending upon the nature of the study and type of questions the researcher is intending to answer.

Barreiro and Yu (2001) say that, probability sampling techniques involves selecting a relatively large number of units from a population or a specific subgroup of a population in a random manner where the probability of inclusion for every member of a population is



determinable. These sampling techniques are most appropriate in quantitative oriented studies. These sampling techniques are therefore suitable when conducting a study which includes a large population. Common examples of probability sampling techniques are stratified sampling, random sampling and cluster sampling (Teddlie and Yu, 2007).

Purposive sampling or non-probability sampling is a type of sampling in which particular settings, persons, or events are deliberately selected for the important information they can provide that cannot be gotten as well from other choices (Jolla, 2014). In this case, the researcher is not worried about the representation of the sample but about the richness of the information he or she is likely to extract from the sample. Examples of this type of sampling are snowball sampling and convenient sampling (Jolla, 2014). This type of sampling is therefore suitable when carrying out qualitative oriented studies where the researcher is much concerned by the richness of information which he or she is likely to extract.

Maxwell (1997, 87) states that, “mixed method sampling strategies are combinations of (or intermediate points between) the probability and purposive sampling positions.” This entails the synergy of probability sampling strategies and non-probability sampling strategies. This is a very unique sampling strategy which is suitable for the mixed research methods. According to Teddlie and YU (1997) examples of this type of sampling are concurrent mixed sampling and sequential mixed sampling.

### **3.7.1 SNONWBALL SAMPLING**

According to Patton (2002) snowball sampling technique involves asking the subjects to nominate other people with the same traits as the next subjects. Snowball sampling is a non-probability sampling technique that is used by the researcher to identify potential subjects in studies where subjects are hard to locate.

Teddle and Yu (2007) also state that, when using the snowball sampling technique the respondents are very crucial in nominating other potential respondents. In this study the researcher identified 2 indigenous forest products traders from Hurungwe North. These traders helped him to identify other rural people who were involved in trading in different indigenous forest products. The researcher decided to employ snowball sampling technique because he realized that, it would be difficult to identify the individuals who were selling the indigenous forest products while some of the products were out of season. Thus 2 respondents from the population helped the researcher to identify the rest of the respondents in the trading of indigenous forest products.

In identifying the key informants the researcher also employed the snowball sampling technique in which the respondent with the information concerning indigenous forest products was used to identify other individuals who are rich in the information concerning the indigenous forest products. In this research, the researcher identified one village head that helped him to identify other individuals who were rich in data concerning the indigenous forest products. In the process, other knowledgeable village heads and field officers were identified.

### **3.8 RESEARCH INSTRUMENTS**

According to May (2001) it is essential that the researcher must ensure that the instruments chosen for the collection of data are valid and reliable. Patton (2002) also concur with this by saying that whatever procedure one uses to collect data, must be critically examined to check the extent it is likely to give the researcher the expected results.

In this research, the researcher triangulated data mining instruments. This means that, the researcher decided to use a number data mining techniques to acquire data concerning the impact of the commercialization of the indigenous forest products on the rural livelihoods. In

this research, the researcher acquired the data using the in-depth interviews and Focus Group Discussions (FGs).

### **3.8.1 IN-DEPTH INTERVIEWS**

May (2001) defines an interview as an interaction in which oral questions are posed by the interviewer to elicit oral responses from the interviewee/respondent. The researcher is obliged to record the interviewee's responses and then analyse them. In this research the researcher decided to employ interviews to collect information concerning the profitability of the commercialization of indigenous forest products in as much as rural livelihoods are concerned.

According May (2001) there are two types of interview and these are structured and unstructured interviews. Structured interviews are different from unstructured interviews in that, on one hand structured interviews are done in a way that the interviewer asks his or her questions following a certain order prepared before the interview. On the other hand, in an unstructured interview the interviewer does necessarily follow a certain prepared order of asking questions.

In this research, the researcher interviewed the representatives of the Chief, a selected percentage of Headmen, the Agricultural Extension Officers and a field officer of an NGO, Carbon Green. Selection of the respondents to be interviewed was strongly based on their knowledge concerning the commercialization of certain indigenous forest products and its impact on rural livelihoods in the area under the study. The interview was well unstructured to allow the interviewee to express their own views in their own words and language. The researcher also decided to employ the interview as a data mining tool because it would allow face to face interaction between the researcher and the respondents. This would have an advantage of allowing the researcher to capture some non-verbal communication from the

respondents. The interview would also allow the researcher to probe further on certain questions and grey areas of the topic which could not be done so easily when one uses the questionnaire.

### **3.8.2 FOCUS GROUPS (FGs)**

According to Patton (2002) Focus Groups (FGs) are gatherings of 8 to 12 people who share same characteristics relevant to the researcher's evaluation. Focus Groups (FGs) can allow interaction between the researcher and his or her group of respondents. This technique allows observation of group dynamics, discussion, and first hand insights into the respondents' behaviour, attitudes and language. In this study the researcher did a focus group discussion with 10 traders. The researcher used FGs to collect data concerning the problems which the people engaging in the trade in indigenous forest products were facing in carrying out their business. The researcher also used FGs to gather data concerning the respondents' suggestions about what is supposed to be done by different authorities to improve the profitability of indigenous forest products. The researcher decided to organize FGs because they allow the cooperation of respondents and in a way allow them to remind each other about some events and problems which they have experienced or are currently experiencing. Focus Groups were used in this research because they allow the direct interaction between the researcher and the respondents. This would therefore improve the richness of the data from the group participants. Focus Groups were used in this research so as to cater for the problem of forgetting among the respondents.

### **3.8.3 QUESTIONNAIRE**

According to Barreiro and Albandoz (2001) a questionnaire is a data collection instrument which is made up of a document with a set of questions deliberately designed to elicit responses from the respondents or research informants. Barreiro and Albandoz also indicate that, there are two types of questions found in a questionnaire, that is structured and unstructured questions. Structured questions are formulated in a way that the respondents have clear set of answers which he or she is supposed to choose from while unstructured questions allow the respondent to make his/her own responses.

In this research the researcher administered a questionnaire. A questionnaire was prepared and distributed among the rural people involved in the trade or sale of indigenous forest products. 60 copies were made and distributed for the rural indigenous forest products traders to fill in answers. The questionnaire comprised both closed and open-ended questions. The majority of the questions were open ended. Questions to do with the demographic and personal details of the individuals were close-ended. Some of the questions which were open-ended included those which needed the respondents' explanations like those to do with how the households were expending their incomes. The researcher decided to employ the questionnaire because it allows the anonymity of the respondents so that it would be better placed in helping to ensure the reliability of the answers. Personal data of the respondents especially issues to do with the age, marital status and the incomes is too sensitive that it can hardly be disclosed to the outsider unless the respondents' anonymity is allowed by the researcher through the use of questionnaire. The use of the questionnaire also avoids face to face interaction between the researcher and the respondents thereby helping to reduce biased information from the respondents. The use of questionnaire also helped to serve time since it was difficult or impossible to interview each and every respondent

### **3.9 CHAPTER SUMMARY**

In this research, the researcher used qualitative research methodology and the qualitative research design was used. The researcher also used purposive sampling method. In this research the researcher used the snowball sampling method for him to choose the respondents. The researcher also mixed the qualitative and quantitative methods. In this research, the researcher also used both qualitative and quantitative data collection methods.

# **CHAPTER 4**

## **DATA PRESENTATION AND ANALYSIS**

### **4.1 INTRODUCTION**

This chapter focuses on the presentation and analysis of the data obtained from the Focus Groups (FGs), in-depth interviews and the questionnaire on the impact of the commercialization of indigenous forest products on the rural livelihoods in Hurungwe North. In this chapter the researcher presented and analysed the qualitative data he obtained from the field in Hurungwe North. The data was presented in the form of raw texts and some was presented as the researcher's analysed texts. The researcher presented the data in the form of texts which were recorded from the respondents. Some qualitative data was presented directly as respondents' texts while some was presented as researcher's analysed texts. The researcher's analysis of the presented data is also given while this chapter progresses.

### **4.2 DEMOGRAPHIC INFORMATION OF THE RESPONDENTS**

#### **4.2.1 GENDER AND AGE GROUPS OF THE RESPONDENTS**

Out of all the forty respondents, 20 were males while 20 were females. This is because the researcher deliberately decided to include equal numbers of males and females in a way to ensure that, the data will not be gender biased or skewed towards one sexual group. These results tend to reveal that, indigenous forest products are important to both men and women in Hurungwe North. However, the majority of women were engaging in the sale of fruits and vegetable products. Men on the other hand reported to be engaging in more strenuous and masculine activities such as the collection and sale of fuel wood and the selling of honey and

honey products. Results also indicated that children (the under 16s) constitutes 22.5 % of the people engaging in the sale of indigenous forest products in Hurungwe North. This tends to show that there is exploitation of children in the community. This resembles child labour and the abuse of children. This exploitation of the young children might also have affected their school attendance. In the long run this can therefore harm the young children’s performance in school and thereby affect the future human resources base of the society.

**Table 4.1 Gender and Age of individuals engaging in the sale of indigenous forest products**

<b>AGE GROUP</b>	<b>MALES</b>	<b>FEMALES</b>	<b>PERCENTAGE</b>
<b>Under 16</b>	<b>5</b>	<b>4</b>	<b>22.5</b>
<b>16-25</b>	<b>3</b>	<b>2</b>	<b>12.5</b>
<b>26-35</b>	<b>8</b>	<b>3</b>	<b>27.5</b>
<b>36-45</b>	<b>3</b>	<b>7</b>	<b>25</b>
<b>46+</b>	<b>1</b>	<b>4</b>	<b>12.5</b>

Source Field Survey

#### **4.2.2 ACCADEMIC LEVELS OF THE RESPONDENTS**

Among the indigenous forest products sellers in Hurungwe North, the respondents indicated that most of them attended school up to Primary level and a few of them did not attend school at all in their lifetime. An Agricultural Extension officer Mr Robert Kamudambuko said that,

*“it is meaningless for an educated member of the society to humiliate himself or herself by engaging in the sale of such petty products like indigenous forest fruit products instead of engaging in a decent better paying activity such as tobacco farming.”*



This indicates that, the engagement in the sale of the indigenous forest products in Hurungwe North was being relegated to be a preserve of the poorly educated members of the community.

Since the respondents without secondary education were said to constitute more than half of the population, it indicates that, the majority of people in Hurungwe do not have the enough education. Lower academic levels may also have implications on the bargaining power of rural people when negotiating prices of their products with the buyers or middlemen. This tends to support Byron and Arnold (1998) who regard the engagement in extraction and sale of indigenous forest products as a preserve of the poor and less educated section of the society. This tends to reveal that, the poor people are engaging in the exploitation of indigenous forest products because of lack of other skills to boost their livelihoods. This tends to crush Rodrigo (2004) who say that, the selling of most indigenous forest fruit products is being pursued by the individuals whose employment opportunities are limited by age, gender and/or disability since able bodied men and women are selling the indigenous forest products in Hurungwe North. The researcher therefore noted that, most of the rural people in Hurungwe North still need to have access to education which will help to improve their power to bargain for prices of their indigenous forest products and thereby improve their livelihoods.

#### **4.2.3 TYPES OF HOUSEHOLDS ENGAGING IN SELLING OF INDIGENOUS FOREST PRODUCTS**

All the village heads who were interviewed by the researcher indicated that the majority of the households of the members who were engaging in the sale of most indigenous forest products in their respective villages were either female headed. One village head said that, the female headed households were dominating in the sale of the less paying forest fruit and

vegetable products while only a few male households were engaging in the sale indigenous forest products such as honey. This indicated that, those who were engaging in the commercialization and sale of indigenous forest products were doing so because of desperation since female headed households are generally considered to be vulnerable to poverty.

Some of the households that were engaging in the commercialization and sale of indigenous forest products were said to be child headed. These households were said to be engaging in the sale of indigenous forest products because of the failure to have other alternative sources of income. Mr Kagoda, a village head said, “since children cannot have equal opportunity to have access to decent employment like the adults in Zimbabwe it means that in some cases, the selling of the indigenous forest products may be the only alternative for the children to earn an income. This means that, there would be no any other alternative for the child household heads except for submitting themselves to the burden of selling indigenous forest products.” This shows that, the sale of the indigenous forest products in Hurungwe North is done by the individual households which are either child headed or female headed.

#### **4.2.4 LEVELS OF HOUSEHOLDS’ RELIANCE ON THE SALE OF INDIGENOUS FOREST PRODUCTS**

During the Focus Groups (FGs) sessions the group members indicated crop cultivation and rearing of the domesticated animals to be the basis of the rural people’s livelihoods. One of the women who specialized in the selling of the grass brooms said that, “agriculture is the basis of their livelihood, because it provided the rural people with both food and money. The shift from agriculture to other activities such as the selling of the indigenous forest products was just but there to complement agricultural activities.” This certainly shows that, despite the emerging importance of the sale of the indigenous forest products, the rural people in

Hurungwe North were still regarding agriculture as the basis of their livelihoods. One village head whom the researcher interviewed also indicated that, in his village, every rationale man and woman was still attached to the sale of the crop produce and no one was prepared to abandon it in favour of the selling of the indigenous forest products. He went on to say that, abandoning agriculture for forest products selling will be synonymous with failure to live in the current rural society. This shows that, the majority of people in Hurungwe North were taking selling of the indigenous forest products as a part time livelihood activity and only suitable to complement agricultural and farm related activities.

Some of the interview respondents however indicated that the sale of other indigenous forest products was very organized that, it earned the household enough financial resources to cater for the majority of its basic necessities and wellbeing. One of the respondents who came out with this idea was Mr Maringire, a field officer of Carbon Green who said that, the rural people in Hurungwe are failing to realize that, some of the people in the communities were earning better from other livelihood activities forest like the sale of the indigenous forest products. He gave an example of one of his clients who could raise amount of quite a high amount of cash after each and every honey harvest. This showed that, some of the indigenous forest products were earning much the market to an extent that they contributed the bulk of the rural people's income.

Table 4.2 shows the results which were derived from a questionnaire administered in the community. It shows that, the majority of the rural households were not depending much on the selling of the indigenous forest products but only taking the commercialization of the indigenous forest products as minor part time activities. However, a few of the questionnaire respondents indicated to be depending on the sale of the indigenous forest products for bulk of their household needs.

**Table 4.2 Levels of household reliance on indigenous forest products**

<b>Level of household reliance on selling indigenous forest products</b>	<b>Number of households</b>
Main livelihood activity	6
Minor/Part Time activity	34

**SOURCE FIELD SURVEY 2014**

### **4.3 INDIGENOUS FOREST PRODUCTS SOLD**

#### **4.3.1 FRUITS**

Females dominated the trade in all indigenous forest fruit products. 100% of the female respondents reported to be selling *Uapaca kirkiana* (*mazhanje*). This may be because the fruit is readily available in abundance in the forests of the locality during the first quarter of the year. 70% of the female population also indicated that they were selling *vitex payos* (*tsubvu*). The dominance of women in the selling of the indigenous fruit products may be attributed to the fact that *vitex payos* fruits can only be collected by very patient people like women. Village heads who were interviewed by the researcher also indicated that, in Hurungwe North, collection and reliance on fruits is customarily regarded as a preserve of the rural women. Mr Muringanisa, a village head indicated that, women have inborn qualities which put them at an advantage when it comes to the collection of indigenous forest products. Only 25% of the men indicated to be engaging in the sale of a fruit variety called *Azanza Garkiana* (*matohwe*). *Azanza Garkiana* fruits were reported to be collected from trees, packed in small packs and sold at the informal open market in streets of Karoi and on roadside markets along the Harare-Chirundu highway. A higher number of male respondents who are engaging in the sale of this fruits can be attributed to the fact that, the fruit is usually harvested from tall

trees. This means that, men have an advantage in extracting the fruit. Women during a focus group discussion said that, they sold their forest fruit products on roadside markets along the Harare-Chirundu highway. Those who were engaging in the sale of *vitex payos (tsubvu)* and *uapaca kirkiana* indicated that they used to sell their fruits in streets and at fixed informal markets in the town of Karoi during their seasons of availability.

#### **4.3.2 VEGETABLES SOLD**

The researcher combined the data concerning the vegetable products which were being sold by the individuals from the rural households in Hurungwe North. Table 4.3 shows the indigenous forest products which were being sold by the respondents. Some individual respondents however indicated that they were selling more than one indigenous forest vegetables. This means that, the number of people who were engaging in the sale of all the vegetable varieties does not necessarily have to be expressed out of the total number of the sample.

Mushrooms were the most listed as a tradable vegetable product with 75% of all respondents listing it as a product which they were engaging in selling. Respondents indicated that, they sold mushroom on roadside informal markets and they attracted travellers from Zimbabwe and some from other neighbouring countries. Participants of a Focus Group indicated 4 varieties of mushroom were being sold fresh by women and children on roadside markets especially at Elephants Walk along the Harare-Chirundu Highway. The mushroom varieties were said to be collected from the nearby forests especially those in which the *musasa* and *mupfuti* trees were the dominant fruit varieties. During a Focus Group session, one young woman said that,

*“we are so excited by the fact that our mushroom products are attracting people from other races especially the Whites who are using the Harare-Chirundu highway.”*

This shows that the mushroom varieties are gaining prominence in as much as attracting customers as well as raising the incomes of the rural poor people.

Wild okra also called *Cochrus tridens/ derere* was also sold by 40% of the respondents. *Cochrus tridens* were sold on informal markets in the urban Centre of Karoi. At a Focus Group (FG) one middle aged woman said that they were selling some of their vegetables to the middlemen who were said to be exporting the products to neighbouring countries like South Africa and Zambia. Wild cucumbers were reported as the least sold vegetable product in Hurungwe North. Women sold the product most within the community and in very rare cases outside the community. Women dominated in the sale of all the vegetables in the community. This dominance of women in the sale of indigenous forest products may be attributed to the long standing custom and gendered division of labour which expected women to be primarily responsible for the subsistence of the households and thereby active in the collection of vegetables.

**Table 4.3 Respondents engaging in the sale of vegetable forest products**

VEGETABLE	FEMALES	MALES	PERCENTAGE
Mushroom (different varieties)	18	12	75%
<i>Cochrus tridens</i> ( <i>derere</i> )	15	1	40%
Wild cucumbers ( <i>magaka</i> )	11	4	37.5%

**Source Field Survey, 2014**

### **4.3.3 OTHER COMMERCIALIZED FOREST PRODUCTS**

The respondents listed the indigenous forest products which they were selling. Each respondent listed at least two indigenous forest products which he or she was involved in selling. The researcher then presented the data using Table 4.4. Since the respondents were engaging in the sale of two or more products, one respondent might have engaged in selling more than one product. This meant that, he or she would have been counted under two or more products which he or she listed.

Firewood is also harvested in the community by the rural people. 40% of male respondents have indicated that, they at one time or the other engaged in the harvesting and sale of firewood. One village head said that, some of the male unemployed rural men who have limited or no access to land have resorted to the cutting and illegal selling of firewood using axes and a few were using hired chain saws. The collection and transportation of the wood was responsibility of the farmers who bought the wood for tobacco curing. They indicated that, they sold their firewood to the local farmers who use wood for curing their tobacco crop. Firewood selling is therefore seasonal, with sales high during the harvesting season (February-June) and very low during off-season period of tobacco (July-January). Among women, fuel wood was not commonly sold. This may be because, the cutting and collection of firewood is a manual job which needs a lot of physical effort. Women indicated that they were responsible for the collection of dry wood only for their domestic consumption.

Some of the respondents indicated that, they are involved in the selling of wild honey. Wild honey is one of the most important indigenous forest products in Hurungwe North. Wild honey is extracted from the forests where it is taken from rock crevices, in trees and in holes. Some of the honey is however extracted from the locally and domestic made hives. According to Mr Maringire a field officer of the organization called Carbon Green which is

responsible for the improvement of honey output in the community. Some of the households have received supplementary hives from the Carbon Green organization. This initiative was said to be improving the output of honey in the community. Honey is melted, boiled, bottled and sold as liquid. One of the village heads also indicated that, wild honey has recently occupied the central role in as much as fostering the development of the rural households is concerned. He indicated that, some of the rural people have recently started to engage in complementing their incomes by selling the wild honey. Questionnaire respondents indicated that, they sold much of their honey at Magunje Growth Point and Karoi town mainly during the beginning of winter when much of the honey is extracted. Some of the respondents reported that they sold their honey in the local communities and in some cases as far as Harare and Kariba.

Some of the respondents indicated that, they were secretly selling traditional herbs and roots as medicine. The problem however was that, the medicinal plants which they used could not be listed and revealed to the public since that could disrupt respondents' (traditional healers) livelihoods. Mr Muringanisa, a village head indicated that, if the traditional healers happen to tell the herbs which they used to cure certain diseases, anyone can the extract the herbs for themselves if there is a need. Another village head also said that, traditional medicines which were being extracted from the forests as twigs, roots and leaves were used to cure Sexually Transmitted Diseases (STDs) and snake bites were however being used as crushed powders which could not be easily recognized by anyone except for the traditional healer himself/herself. Some of the herbs were said to be used by the Traditional healers to cure some infant related diseases and to drive away the unwanted spirits. One of the village heads stated that, the collection and sale of the indigenous forest medicinal plants was no longer restricted to the local traditional healers. He also claimed that, except for the registered traditional healers (*n'anga*) in the communities, younger men and women were engaging in



the collection and selling of the indigenous medicinal plants and animals. These were in most cases engaging in the selling of indigenous forest products to cure Sexually Transmitted diseases (STDs). Patients were said to be coming from the community and some areas beyond since the medical charges from traditional healers were said to be cheaper and a bit more effective compared to modern medicine offered by the hospitals and clinics. Traditional medicine selling was said to be a full time job for some members of the community especially traditional healers. The researcher noted that, though a growing number of people in the communities were being converted to Christianity, which discourages and attack the use of traditional herbal medicines, most people still relied on traditional indigenous forest products to solve some of their medical problem.

Small animals, insects and insect products were sold by the children especially those from the 5-15 age groups. The most reportedly sold product from this category included mice. Mice were trapped in forests adjacent to the rural farming areas and in some cases, fields following the harvesting season. They were prepared boiled and sold at gatherings especially at the local shops when the local people are drinking beer. One of the Agricultural Extension officers (Mashore) indicated that extracting mice was very important not only for the financial and nutritional gains directed to the rural households but for preparing the land for the future season by removing pests. He also said that, “the selling of mice was seasonally conducted during the winter season.

**TABLE 4.4 UNCATEGORISED COMMERCIALIZED INDIGENOUS FOREST PRODUCTS**

Commercialized Indigenous Forest Product	Males	Females
Firewood	8	0
Fish	5	4
Honey	9	0
Medicines	3	5
Small animals and Insects	6	0

SOURCE FIELD SURVEY 2014

#### **4.3.4 COMMERCIALIZED SECONDARY INDIGENOUS FOREST PRODUCTS**

Secondary products were indicated by a few respondents as an indigenous forest product which they sold. Secondary forest products comprise reed mats, wooden cooking sticks, sisal and reed baskets and sweeping brooms.

Wooden products included stools, small tables and cooking sticks. These products were made from locally available tree species include indigenous varieties like *Uapaca kirkiana* (*muzhanje*). They were reportedly curved and processed by some male members of the communities and sold locally in the communities though a few of the respondents indicated that. Village heads also indicated that wood carvers were often selling their products outside the community especially in the urban area of Karoi as well as within the community. According to a male respondent who attended a Focus Group session some of the wood carved products were so beautifully made that, they attracted market even from the foreigners. A certain man from Nyikadzino village in Chundu who claimed to be making wood products like stools and chairs from locally cut tree species also indicated that,

carpenters and wood carvers had very good transactional relationships with the schools in the locality since the carpenters sold their products like chairs and tables to the school for money.

Sweeping brooms were categorized into two types in which one type was the common one made from grass and the other type comprised those made from a tree like plant called *pfunde*. Women dominated in the sale of both types of brooms. Raw materials to make products were indicated by village heads to be readily available in the forest and hilly areas. Some respondents indicated that, they sold mats made of reeds. These were said to be locally made from the reeds in the communities' major river and streams. Village heads said that, the villagers were getting much of their reeds for making mats from big rivers like Chewore, Rukomeshi, Makonde and Mushangishi and sold the mats within the communities and occasionally in Karoi. The researcher noted that, the selling of traditional and modern secondary indigenous forest products especially reed baskets was promoting and accelerating the process of home based industrialization in rural communities of Hurungwe North.

Table 4.5 shows some of the secondary indigenous forest products which were being sold by the respondents in Hurungwe North. The table also shows the numbers of the questionnaire respondents who indicated to be selling the commercialized secondary indigenous forest products. The table shows that, the number of female respondents who were engaging in the sale of the secondary forest products was a bit lower than the number of the male respondents who were engaging in the sale of the indigenous forest products.

**Table 4.5 Commercialized Secondary Indigenous Forest products**

<b>Secondary indigenous forest products</b>	<b>Males</b>	<b>Females</b>
Wooden chairs and tables	4	0
Reed baskets	4	4
Wooden cooking sticks	3	0
Sweeping brooms	1	5
Reed mats	4	3

**SOURCE FIELD SURVEY 2014**

#### **4.4 REASONS FOR ENGAGING IN THE SALE OF INDIGENOUS FOREST PRODUCTS**

Both the interviews and the Focus Group discussion indicated that there were respondents who were engaging in the sale of the indigenous forest products because of desperation and not having other reliable sources of income. One of village heads in the Chundu area indicated that, most of the people in the community did not have any member who is formally employed who can provide the family with the basic necessities. This will then mean that the members of the household have to engage in the extraction and sale of the readily available indigenous forest products. This tends to show that, most people in the community were engaging in the sale of indigenous forest products because of poverty and failure to access the basic necessities.

Seasonality was the second rated reason by the respondents as the main cause of engaging in the sale of indigenous forest products. In this case, households decided to engage in the selling of the available indigenous forest products in a bid to utilize the available labour reserves during the off season. One village head indicated that, his people were facing a

problem of seasonal famines to an extent that during the period prior to the harvesting season some tend to rely on the consumption of immature pumpkins which in some cases caused stomach pains and a general ill health. This means that, they have to harvest and sell forest products so as to cater for the seasonal food shortages and alleviate hunger and famine. This category of respondents who engaged in the selling of indigenous forest products on seasonal basis involves those who collected products during the dry season when tobacco farming does not demand much labour. These respondents included those who collected and sold fruit products such as *Azanza Garkiana*.

Some of the questionnaire respondents especially those who were engaging in the sale of certain secondary forest products rated availability of skills as the main factor which influenced them to engage in the sale of the indigenous forest products in Hurungwe North. According to the Chief's representative, some of the community members have very unique craft skills like carpenters and wood carvers. Those craft skills make them suitable for the making and sale of the indigenous forest products in the community. These individuals included the registered traditional healers who could sell their traditional medicinal plant species, the wood carvers, the carpenters and the reed basket and mat makers. These individual households therefore have to use the skills which they acquired for them to make certain secondary indigenous forest products. Thus the ability to make a unique product will then mean that, the individual have to market the product in or outside the community.

#### **4.5 INCOMES EARNED FROM THE SALE OF INDIGENOUS FOREST PRODUCTS.**

The researcher collected the data on the incomes earned from the sale of the indigenous forest products using the questionnaire and interviews. The questionnaire was answered by the individuals who were engaging in the sale of the respective indigenous forest products. Interviewees were reporting on the incomes which they thought to have been likely to be earned by the people whom they had acquaintance with.

Secondary forest products were fetching high annual income per household. These included the products like home-made chairs and tables, brooms, sisal baskets, cooking sticks and reed mats. One questionnaire respondent who listed selling wood products like chairs, benches and tables said that he was earning an average of US\$495 per annum. A certain middle aged man from the Chundu area reviewed at a Focus Group Discussion that engaging in the sale of furniture had an advantage of being carried out throughout the year since the tree species for making the wood are always available throughout the year. The man also reviewed that because, secondary forest products are sold the year round meaning to say that, they are not seriously affected by the fall of the prices because of seasonal changes. The other reason for the high income from secondary forest products may be that, they are value added products which means that they are comparably recognized better at the markets than the other indigenous forest products which were sold raw like fruit products such as *Uapaca kirkiana*.

Wild honey was ranked the second highest income earning forest product in Hurungwe North by most respondents in Hurungwe North. One respondent from the Huyo-Chifiro area indicated to be earning an average of \$1250 every year. Honey processing and selling was one of the most supported forest products enhancement activity in Hurungwe North. Mr Maringire of the Carbon Green organization who specialized in the promotion of the honey

said that honey was being sold within the community at the price of \$US4 per kg. Local sale of honey was reported by the Focus Groups (FGs) participants as influenced by a belief that honey can be used to cure chest pains and other chest related illnesses. Carbon Green field officer Mr Maringire also indicated that, the harvesting seasons for honey were two every year. He attributed this to the absence of the all-year round flowering plants in the community's forests of Hurungwe. The first season being the beginning of winter (April-May) and the second between November and December especially when most of the indigenous forest trees start flowering. Some of the honey was however sold out of the community with Harare, Kariba and Karoi being the main destinations of honey from Hurungwe North. Honey was therefore one of the high income earning indigenous forest product in Hurungwe North.

Medicines were ranked third in terms of earning income in Hurungwe North. These medicines included those which were sold by traditional healers to cure problems like snake bites and some which were used as remedies for such problems as Sexually Transmitted Diseases (STDs). In a questionnaire one female traditional healer indicated to be earning more than US\$350 from the use of the locally available plant species to cure diseases. In an interview one village head indicated that, he was observing the patients going to the traditional healer throughout the year. He said that, in some cases, the numbers of the attending people was so alarming. The fact that traditional medicines were sold by the rural traditional healers throughout the year was showing that, the incomes of the people who engaged in the sale of the indigenous forest medicines was so sustainable. Villagers during the Focus Group Discussions indicated that, the traditional healers were boasting because of their low numbers in the community which resulted in better markets for their products compared to other indigenous forest products.

Fish was ranked as the fourth highest income earning indigenous forest product in Hurungwe North. The average income from selling fish was at \$360. Fish was harvested from the main rivers which are the tributaries of Zambezi such as Makonde and Chewore. Some questionnaire respondents reported to have harvested fish from as far as the Zambezi River using hooks. According to the village head,

*“the majority of respondents are selling their fish within the community especially at small rural service centres like Chitindiva, Kabidza, Kazangarare, Mahwau and Kapiri and sometimes in schools and clinics where the staff at those places is active in buying the product.”*

The representative of the chief indicated that, the sales of fish in the community fall in winter because of the seasonal fluctuations in catches. This was said to be caused by the fall in temperatures during the winter months. These results indicated that, the income earned from the catching and sale of fish in Hurungwe North is not very sustainable.

Fruits and vegetables were ranked fifth and sixth by the researcher in terms of earning the rural people income. Fruits like *Uapaca kirkiana* (*mazhanje*) and *virtex payos* (*tsubvu*) were the most sold indigenous fruit products. According to the questionnaire respondents, the average annual income that they earned from the sale of fruit and vegetables was around US\$270 per annum. According to a certain Agricultural extension officer, “fruits such as *Uapaca kirkiana* and *virtex payos* were packed in small plastic papers which were sold at 50 cents per packet.” Mushroom varieties were sold along the roads and were said to be attracting a price of at least 50 cents per heap during the rainy season. However, the problem with mushroom and other fruit and vegetable products was that, they are seasonal. Mushroom for instance could only be sold during the morning when it is fresh. This mean to say that, these fruit and vegetable products can be sold for a very short period of time per year. Thus in



actual fact, if the selling time factor is considered when calculating the income earning capacity of the products, vegetables and medicines are the highly earning products. This is because they are exploited for a very short period of time compared to the other forestry products.

Small animals were said to be earning an average of \$65 per annum per household. Small animals in this case comprised mice. These were sold at 20 cents each by young men and boys. Mice were reportedly sold by the individual respondents at gatherings especially at the beer drinking sessions and helped the rural children to raise the income which helped them in their livelihoods.

The researcher therefore noted that, in Hurungwe North communities, honey is the most profitable indigenous forest product. This is because the researcher acknowledged that the exploitation and selling of wild honey demands less labour and yet fetched high incomes from the markets. One of the Village heads indicated that, the work is done by the bees while men concentrated on the agricultural labour in their fields. When compared with secondary forest products which earned the highest income in the community, honey also needed fewer inputs since only locally made hives were the main input. However, the researcher generally found that, the exploitation and selling of the indigenous forest products was failing to earn the sufficient income necessary for the rural people to earn a decent living like earning an income which is a well above the Poverty Datum Line (PDL) which is around US\$500 in Zimbabwe.

#### **4.6 MAIN USES OF THE INCOMES DERIVED FROM THE SALE OF INDIGENOUS FOREST PRODUCTS**

The importance of a household income can be best reviewed by the ways in which the income is used to support the main livelihood activities of a household. The researcher found

investigated how the rural people who were engaging in the sale of the indigenous forest products were using much of their incomes.

Purchasing food for the household was listed by most households as one of the uses of the income derived from the sale of the indigenous forest products. This constituted one of the main uses of the income derived from the sale of the indigenous forest products by the rural households. During the Focus Group Discussion session, one of the participants indicated that, “after a successful day in town selling my indigenous forest fruits (Uapaca Kirkiana) I could go home with a 10KGs of maize meal for my household’s consumption on my head.” The representative of the Chief also indicated that, his subjects were depending very much on the sales of the indigenous fruit products as source of income to purchase maize meal. Purchasing food for the family is important for long term development of the households. This is because, food is important for maintaining the health of the household as well as for maintaining the human resources base of the household.

Purchasing of the agricultural inputs was one of the main uses of the income which the households earned from the sale of the indigenous forest products in Hurungwe North. Some of the questionnaire respondents indicated that their households were purchasing farm implements such as ploughs and hoes. Some indicated that they purchased some farm inputs such as farm chemicals, seeds and fertilizers after selling their indigenous forest products. The majority of these households were those that were engaging in the sale secondary forest products such as reed mats and chairs. According to one interview respondent, Mr Maringire of Carbon Green,

*“.....the November-December sales of honey are very important since they coincided with the beginning of the rainy season which helped his clients who sold honey to purchase their seeds and fertilizers. He also said that, his clients*

*sometimes made breakthrough of managing to buy farm implements like ploughs and cultivators after making successful harvests.”*

The purchase of farm inputs and implements is a very important long term investment by the rural household since agriculture is one of the key livelihood activities for the rural households in Hurungwe North.

Some of the households listed the payment of school fees and other academic costs such as buying stationery and uniforms as the main use of the income which they were earning from the sale of the indigenous forest products. One interview respondent, a village head in the Chundu area said that, “though the income from the sale of the indigenous forest products is not enough for the households, some of the households are using the meagre incomes to buy book, pencils and pens for the children who were still going to school.” The representative of Chief Chundu said reported that, investing in the education of children constitutes one of the most important and meaningful development for the household. He also indicated that, their society’s future lies in the hands of these young children, and thus, educating the children will definitely mean a bright future for the community. This is because, children’s education is very important for the future human resources of the households.

Some of the questionnaire respondents listed alcoholism as another main use of the income they derived from the sale of the indigenous forest products. One village head said that, it was embarrassing that, after selling their firewood, most men went to the bottle stores and spend their money drinking (*giving money to the already rich businessmen who sell alcohol in the communities*). In some cases the men engaged in prostitution and marijuana smoking after raising their income following a successful sale of their indigenous forest products. This was very disastrous for the families since it led to quarrels among the family members and in

some cases family break outs. Alcoholism and its resultant problem of prostitution and domestic violence also put the households at high risk of HIV and AIDS.

The researcher noted that, the majority of the people and households in Hurungwe North were spending their incomes from the sale of the indigenous forest products on a hand to mouth basis. This is because the number of people who used a large percentage of their income on food and drinking was too high. This indicates that, the people who are engaging in the sale of the indigenous forest products were not investing much on the capitals of development. The researcher also found that, there was nothing which the rural people were redirecting towards the recovering of the forest resources. This may mean that, the livelihoods based on the sale of the indigenous forest products are not sustainable and may end within the next decade. This means that, in one way or the other, meaningful transformation of the livelihoods of the people in Hurungwe North was very difficult to be achieved

**Table 4.6 Main uses of the incomes derived from the sale of indigenous forest products**

<b>Main Uses of the Income</b>	<b>Males</b>	<b>Females</b>	<b>Percentage (%)</b>
Purchasing agricultural an inputs	7	3	25
Paying School Fees for the children	3	5	20
Purchasing food for the household	3	9	30
Drinking alcohol and smoking	5	1	15
Other family and Household needs	2	2	10
<b>TOTAL</b>	<b>20</b>	<b>20</b>	<b>100</b>

**SOURCE FIELD SURVEY 2014**

#### **4.7 SEASONAL FLUCTUATIONS IN THE NUMBER OF THE AVAILABILITY OF INDIGENOUS FOREST PRODUCTS**

Respondents indicated the months they usually engage in the collection and sale of the indigenous forest products. The respondents also accounted for the seasonal fluctuations of the incomes which were being derived from the sale of the indigenous forest products.

According to the Agricultural Extension officers, in Hurungwe North, the sale of products like *Uapaca kirkiana* (*mazhanje*) fruits and mushroom is very seasonal. This is because, the products are only found during the rainy season and hardly not available at all during the dry

season. This accounts for no sales recorded during the dry months of the year. The representative of Chief Chundu also indicated that, the other reason for the seasonal variations in the incomes earned from the sale of the plant food products like vegetables, fruits and mushrooms was that, fruits, vegetables and mushrooms are perishable products and the indigenous households do not have the valid preservation methods to ensure the storage of the forest products. This means that, the products will be sold during the periods when they are available. The lower incomes derived from the sale of these forest products can be attributed to the seasonal availability of the products since their availability during certain months will mean lower prices because of the too high supply.

Fish sales are also highly seasonal in Hurungwe North with the highest number of sellers recorded in January and fall to zero during the winter months. This may be because, the catches of fish heavily depend upon the temperatures with the high catches made during the months with high temperatures and low during winter months. This might also be influenced by the unavailability of the refrigerators among the households which sell fish which would force them to sell them while they are fresh.

Medicinal plants, honey and reed baskets were sold by the respondents in most months of the year. This may be because the harvests may be made any time of the year for most medicinal plants and reed baskets. Mr Maringire, a field officer of Carbon Green indicated that, for honey it may be because the product has two harvesting seasons which follow the flowering seasons of the main indigenous trees in the area. The other reason which the field officer identified was that honey can be easily stored and sold sometimes in the future because of its non-perishability (*huchi hahuori*). This indicates that, honey is one of a reliable commercialized forest product for the people in Hurungwe North.

The researcher realized that, investment in the harvesting and sale of products like medicinal plants, honey and secondary forest products can be done all year round. The harvesting and sale of other products like fruits can only be done within specified time limits.

#### **4.8 CHALLENGES ASSOCIATED WITH THE COMMERCIALIZATION OF INDIGENOUS FOREST PRODUCTS**

The researcher also found the data on the challenges militating against the commercialization of indigenous forest products on the rural livelihoods in Hurungwe North. Individual respondents could list one or more challenges which impact on them in as much as the commercialization and sale of the indigenous forest products is concerned.

Harassment by the police was the most listed problem which is being encountered by respondents who engage in the selling of indigenous forest products. The majority of the respondents listed police harassment as one of the challenges militating against their success in the commercialization of the indigenous forest products. Respondents from the Focus groups (FGs) indicated that for those who were selling their products in the urban areas, police harassment and imprisonment were as a result of the fact that, markets of the indigenous forest products were mainly informal. This is because the rural people did not have the permits to pay for the service of selling the products. Respondents also linked police harassment with the failure of the Government to offer more permits and reduce tax for the indigenous forest products traders. Focus Groups indicated that, the taxes charged by the municipal authorities so as to allow the vendors to trade in their products was too high to be afforded by the indigenous forest products traders in the communities. Respondents who engaged in the selling of traditional forest medicines also blamed the government together with the local authorities for their unwillingness to grant permits and working rights in the communities. Only three traditional healers reported to have acquired a permit through

ZINATHA. The researcher therefore noted that, police harassment together with restrictive laws is militating against rural people's success in meeting their goals.

Some of the respondents indicated poor transport as one of the challenge which was affecting them. Focus Groups indicated that, some of the products such as fruit products like *Uapaca kirkiana* were so heavy that, their transportation needed very reliable road transport. The other main problem is that, the area from which some fruit products were extracted were too undulating that it was so very difficult for road transport to reach. One of the village heads indicted that, the transport system was also affected by bad roads which were easily affected by the rainy season. The roads which are connecting the communities with the major markets like the main road and towns are made of gravel which makes them very susceptible to erosion when the heavy rains starts to fall. The forest fruit products such as *Uapaca kirkiana* (*mazhanje*) were mainly extracted from the forestry's depression called the Mushangishi depression between Mahwau and Karuru area. This makes it difficult to collect process and sell the indigenous forest products. Sellers of firewood and *uapaca kirkiana* were indicating to be coping with those transport challenges through reducing the amount of products they extracted. This will mean reduced volume of products to be sold and lower incomes.

Respondents also listed unstable prices and markets as one of the main challenges affecting the profitability of the commercialization of indigenous forest products. This is because the markets of the commercialized forest products were informal and not registered. This means that, there were no reliable and predictable incomes per day per product. A field officer in the bee keeping projects under Carbon Green said that,



*“Some of my clients reportedly spent days and in some cases weeks in Kariba because of the failure to access reliable markets of honey. The resultant problem however is that, the price of the product will decline so as to make sure that all the products would be bought.”*

This will therefore mean that, it may be still difficult for poor people to effectively invest in the selling of indigenous forest products since they will not have security of their products. Focus Groups indicated that, in some cases individuals involved in the selling of fruits in streets in town could abandon their products and flee from police arrests. The sellers of wood were also said to be in continuous conflict with the Environmental Management Agency (EMA) officials and the traditional leaders since it was illegal to cut and sell wood in the community. This meant that, the sellers would have to operate underground which could reduce their bargaining power.

Respondents also indicated that, they were being challenged by being exploited by middlemen. These included those members who were involved in the selling of products to other individuals not the real resource consumers. Those who were involved in the selling of *Cochrus tridens* were a very good example since they complained that, the prices to which they sold their products to the middlemen were far much lower than the prices which the middlemen sold the product out of the country and in other areas within the country. One female respondent indicated at a Focus Group discussion that,

*“if I were not married, I could have been involved in cross border trading in indigenous forest vegetables since those who are selling the products outside are making money out of our efforts.”*

This indicates that, some of the rural people who are engaging in the sale of the indigenous forest products are being exploited by the better off middlemen. This will mean that, the sale of the indigenous forest products will benefit the real poor people as it is expected.

Some of the respondents regarded shortage of inputs as their challenge in the commercialization of indigenous forest products. These inputs included financial resources to purchase tools to start the processing of the indigenous forest products. Those individuals who engaged in the selling of secondary forest products needed some tools to make their products. Focus groups indicated that, those involved in the cutting of trees and selling of firewood needed chain saws to ensure fast and well sophisticated business. This shortage of tools and other inputs could limit their potential to commercialize and make financial profits. Focus groups of the respondents who were engaging of in the making and selling of forest products such as reed basket indicated that, they were facing a challenge of depletion of raw materials such as reeds and sisal due to what they thought to climatic changes. Focus Groups reviewed that, there was a serious problem of veld fires which led to the destruction and depletion of many indigenous forest products in the communities.

Shortage of labour was also indicated as one of the main challenge in the commercialization of indigenous forest products in Hurungwe North. Focus groups indicated that, most of the products especially fruit and vegetable product collection and selling were coinciding with the harvesting, weeding and selling of field crops to an extend that, emphasis is put much on the selling of individual crops than forest products. Thus, little labour is allocated on the selling of indigenous forest products while the harvesting of field crops such as tobacco and maize received the lion's share.

## **4.9 PROBLEMS CAUSED BY COMMERCIALIZATION OF INDIGENOUS FOREST PRODUCTS ON RURAL AREAS**

### **4.9.1 DEFORESTATION**

Key informants indicated that, the commercialization of some of the indigenous forest resources propagated the degradation of the environment. The commercialization of firewood for instance was said to be the leading cause of environmental degradation. Village heads indicated that, tree cutting was being done in a way that the forests would hardly recover. This may in the long run affect the rainfall patterns of the area and lead to an increased temperatures within the community. Overexploitation of the wood was said by some of the village heads to be high in areas on the margins of the community such as Kabidza and Mayamba. In these places, the overexploitation of the forest may also affect the wildlife since some of the individuals are ending up cutting and collecting the wood from the National Park. Focus Group Discussions indicated that there was a serious competition between fruit sellers and the wood carvers. They indicated that some of the wood carvers were using the fruit trees to make their products like stools and chairs. The varieties which were under serious threat were fruit trees like *Uapaca kirkiana* (*mazhanje*).

### **4.9.2 VELD FIRES**

The village heads indicated that, the exploitation and sale of small animals like mice have resulted in the increased chances of dangerous veld fires. Village heads indicated that, young boys burnt the grasslands so that they might clear the land so that they could make the catching of mice easier. One Agricultural Extension Officer, Mashore said that,

*“the clearing of land using fire which was being done by young children when catching mice and extracting some of the wild honey heavily impacted on the animal health because of the destruction of pastures since they used fires which they caused.”*

The increase in the occurrence of fires was also said to be affecting the soil nutrition and crop farming because of the destruction of nitrogen fixing microorganism and the burning of humus which is important for soil fertility. All this will impact on the agricultural performance of the community.

### **4.9.3 CONFLICTS**

Conflicts for natural resources were reported as one of the resultant problem of the sale of indigenous forest products in Hurungwe North. Village heads indicated that they often engage in dispute settlement between the members of the communities because of conflicts for the raw forest products. Some of the respondents especially those who were engaging in the sale of fuel wood were reporting that, they were sometimes excluded from extracting wood by the traditional authorities and Environmental Management Agency (EMA) officials. Respondents also indicated that, there were inter-community competition and quarrels for the extraction of forest products such as wood and fruits. Agricultural Extension officer indicated that, the rural households were protecting their areas of influence from the extraction of resources by the outsiders. The researcher therefore noted that, in the long run there will be intensified conflicts for the extraction and access to indigenous forest products. This may lead to the emergency of the domestication and protection of some of the critical forest products by the rural households

#### **4.9.4 SHORTAGE OF PRODUCTS FOR HOUSEHOLDS' DIRECT PROVISSIONING**

Traditional leaders (village heads) revealed their concerns towards the prioritization of commercialization of indigenous forest products over the direct provisioning of the indigenous forest products for the rural households. They indicated that, it was becoming more difficult for the villagers to find some of the high quality indigenous forest products because they were being sold at the markets. One agricultural Extension officer indicated that, during the rainy season it was now very difficult for an individual to extract fresh mushroom during the morning because of the competition with the product sellers. One village head from the area of Mayamba indicated that, because of the proliferation of the sale of firewood in the area, it was becoming very difficult for the rural households in the area to get access to firewood and other indigenous forest products in the area for their financial gains. Surprisingly, it was found that, the shortage of the products for the direct household provisioning was very acute among the population which sell the indigenous forest products. It was indicated by one respondent during Focus Groups (FGs) that, vendors (people who sold indigenous forest products) were selling their quality products at the expense of domestic consumption. This will in a long run disrupts the wellbeing of the indigenous people through the disruption of their diets and thereby affecting the nutrition of the communities' inhabitants.

#### **4.10 STEPS TAKEN TO PROMOTE THE COMMERCIALIZATION OF INDIGENOUS FOREST PRODUCTS IN HURUNGWE NORTH**

Honey is reportedly the most promoted indigenous forest product in the community. The commercialization of honey was being promoted by an organization called Carbon Green. The organization's main goal is to ensure an environmentally friendly environment and at the

same time improve the livelihoods of the rural poverty stricken households. One village head indicated that, Carbon Green helped the rural people with harvesting skills through one week long workshops which were conducted in rural areas in the community. Carbon Green was also said to have distributed bee hives which the organization purchased from local carpenters. Respondents also indicated that, the organization also promoted the commercialization of honey through the marketing of the honey. One village head also indicated that, the organization helped in the transportation and marketing of the honey since it was responsible for the selling of some of the honey to its markets. He also said that, the commercialization of honey through the efforts of Carbon Green have helped to improve the livelihoods of the rural people in the community as well as improving helped to ensure the maintenance of the environmental wellbeing in the community.

#### **4.11 CHAPTER SUMMARY**

In this chapter the researcher presented and analysed the data collected in the field. The researcher used graphs, tables and charts to present the quantitative data collected from the field. The researcher presented and analysed both quantitative and qualitative data in this chapter.

## **CHAPTER 5**

### **CONCLUSSION AND RECOMMENDATIONS**

#### **5.1 CONCLUSSION**

The researcher found that, the sale of certain indigenous forest fruit products in Hurungwe has the potential of improving the livelihoods of many poor rural households in the community if well supported. The selling of some indigenous forest product of some selected indigenous forest products such as wild honey and some secondary forest products have proved to be earning the rural households enough incomes to sustain their livelihoods. However, the sale of other forestry products such as small animals and firewood proved to be of little relevance in sustaining the livelihoods of the rural households in the communities. This shows that, agriculture in general and crop cultivation in specific remains the main livelihood activity of the people staying in Hurungwe North.

The researcher also noted that, the incomes which the rural households were earning from the sale of indigenous forest products was being mainly expended by the rural households on the purchase food and other short term household necessities. Little income was therefore directed towards the purchase of equipment to support other dominant rural livelihood activities like agriculture and little directed towards investment in children's education. This hand-to-mouth type of approach on spending incomes does not promote the sustainable development of the rural households.

However, in some cases, the researcher found that the earnings from the sale of indigenous forest products helped the rural households to subsist especially during times of uncertainty like droughts, floods, dry seasons and floods. This shows that, the sale of indigenous forest

products is a vital safety net in Hurungwe North which helps the rural poor households to sail through difficult periods. This indicates that the sale of some of the indigenous forest products is vital for the maintenance of the human resources of the community.

The research also pointed that, the engagement in the selling and commercialization of the indigenous forest products is carried out by the less educated and poor households of the community. This means that, the income from the sale of the indigenous forest products is going to the households where it needed most. This indicates that, the indigenous forest products are very vital for the survival of some of the households in Hurungwe North.

The researcher also found that, the selling of most of the indigenous forest products is done during the rainy season. Since the main livelihood activity (tobacco farming) also demands a large supply of labour during the rainy, it will mean that, the supply of labour to the collection and selling of the indigenous forest products will be at a receiving end. Thus, if there was no tobacco farming in the area, the incomes from the sale of the indigenous forest products could be higher. It is important to note that, the collection of indigenous forest products may be affecting the labour supply of tobacco farming.

In this research, the researcher also concluded that, the rate at which some of the indigenous forest products are being exploited from the forest is too high to an extent that, with time it will be difficult find some of the products from the forests. These products include wood and some tree varieties which were stripped off their bark for their medicinal purposes. Thus, there are very high chances of species extinction because of the commercialization of the forest products in the community.

The researcher also noted that, in Hurungwe North, the sellers were not investing their profits towards the regeneration and the recovering of the forest products they were exploiting and selling. This may mean to say that, the livelihoods based on the sale or the commercialization



of the indigenous forest products are not sustainable and may disappear in about 10 years to come.

The researcher also concluded that, increase in the reliance of rural people on the income they are earning from the sale of indigenous forest products will in some ways result in shortage of the forest important forest products for direct household consumption. This is because if the importance of the indigenous forest products on the market does not change, in the long run households will end up consuming products rejected by the markets only and sell everything that the buyers accept. This means that, in the future, it will not be surprising to find symptoms of the shortage of certain indigenous forest products among some members of certain households that are well involved in the exploitation and sale of the product.

The researcher also concluded that, the use of the incomes tends to be directed towards important household needs when the income is controlled by women. Women in Hurungwe North tends to spend much of their incomes they earn from the sale of the indigenous forest products on the purchasing of basic households needs like food and payment of school fees. This is in contrast with the male members of the community who tend to spend the money on drinking.

The researcher also concluded that, with time if the rural people will find themselves domesticating the indigenous forest products especially indigenous tree species like *Uapaca kirkiana* mazhanje. These indigenous resources will end up being private property instead of being exploited through open access by the rural people in Hurungwe North.

## 5.2 RECOMMENDATIONS

- There is need for the local authority (Hurungwe District Council) to offer trading permits to the rural people who are engaging in the sale of indigenous forest products. This will improve the security of the sellers from the police.
- There is need for the Non-Governmental Organizations (NGOs) to provide loans with affordable interests to the rural people who are engaging in the sale of the indigenous forest products for them to purchase of equipment and pay for transport and labour costs.
- The Government together with the Private sector organizations should initiate projects which support and offer information to ensure the sustainable exploitation of the indigenous forest products.
- The local people should organize themselves into cooperatives so as to maximize incomes from the sale of indigenous forest products. These cooperatives should ensure the support to members in terms of labour and inputs.
- Local communities should learn to plough back their profits towards the wellbeing, protection and regeneration of the forest and the forest plough. This may be done through raising funds to make fire guards on critical indigenous forest products sourcing substitutes for some of the forest products.
- For the maximization of the indigenous forest products to be realized in Hurungwe North, there is need for the interference of the local authority in educating the rural indigenous forest products sellers about the basic financial management skills. This will help to avoid the loss of the financial resources to unnecessary uses such as alcoholism.
- Traditional authorities and leaders should liaise with perennial and reliable buyers of different indigenous forest products such as honey so that they can come and buy the

products within the community. This will help to avoid losses which can be experienced through transportation of the indigenous forest products to markets.

- There is need for the creation of trans-boundary indigenous forest products management committees which will include all the stakeholders in the management of the natural resources but should be led by the rural people who sell the indigenous forest products. This will help to harmonize the views of different stakeholders and reduce the overexploitation of the indigenous forest resources.
- Heavy fines should be charged by the Environmental Management Agency (EMA) to the individuals who use fire in the extraction of any of the indigenous forest products or to those who unnecessarily create bush fires. This will help to protect the available natural resources in the community.
- In order to cater for the high loss of some of the products like tree species, the community members should engage in the planting of exotic, fast growing tree species like the eucalyptus. This will help to replace the lost forest trees because of their exploitation for tobacco curing.
- NGOs and government departments that are involved in promoting the commercialization of the indigenous forest products like Carbon Green should empower more women in their projects so that the earnings will be directed towards direct households' wellbeing and development.

### **5.3 SUGGESTED AREAS FOR FUTURE STUDIES**

While researching, the researcher came across some of the which were remaining dark. The questions from those areas therefore deserve to be answered through independent research investigations. These research areas include those listed below and some which are not part of the list below.

- The environmental impacts of the commercialization of the indigenous forest products in Hurungwe North.
- The effectiveness of the traditional and modern environmental management strategies and institutions in the conservation of the indigenous forest products.
- The contribution of the Non-Governmental Organizations (NGOs) on rural livelihoods in Hurungwe North.
- The gendered contribution of extraction and consumption of the indigenous forest products on the rural livelihoods in Hurungwe North.

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# QUESTIONNAIRE

## SECTION A- DEMOGRAPHIC INFORMATION

VERENGA TEMBA is a student at the Midlands State University and currently undertaking a Masters of Arts degree in Development Studies. He is undertaking a study on the Impact of commercialization of indigenous forest products on rural livelihoods. Please may you assist by answering this questionnaire. Do not write your name on the copy of questionnaire.

### SECTION A

1. a) Sex  Male Female
- b) Age  6-15 16-25 26-35  
36-45 46-55 56+
- c) Marital status  Single  Married  
Divorced widowed
- d) Academic levels  Primary Secondary  
 Tertiary None
- e) Head of your household Male Adult Female Adult Child Aged
- f) Employment status Formally employed Unemployed  
Self employed

### SECTION B

- 2 What indigenous forest products do you normally sell? List them in order starting with the most sold
- i).....
- ii).....
- iii).....

**3** Why have you decided to engage in the selling of indigenous forest products?

.....  
.....  
.....  
.....

**4** Do you hire labour for any of the processes including extraction, processing or transportation of the indigenous forest products you sell?

- Yes      No

**5** If No, where do you get the labour for those activities?

.....  
.....

**6** For how long now have you engaged in the selling of indigenous forest products?

- Less than 1 year     1-3 years     4-5years     more than 5 years

**7** Where do you sell the bulk of your products?

.....  
.....  
.....

**8** What is the average income per year do you derive from the sale of indigenous forest products?

.....

**9** What is the average amount of money do you normally use in the extraction, transportation, processing and sale of indigenous forest products? .....

**10 i)** For how long a year do you engage in the selling of the indigenous forest products?

- Less than 1 month     1-3 months    4-6 months    7-9 months

ii) In what months do you sell your indigenous forest products? List all months.....

.....  
.....  
**11** For what purposes do you normally use your income from the sale of indigenous forest products? i).....

ii).....

iii).....

**12** Is the income you are deriving from the sale of indigenous forest products enough to cater for your basic needs? .....

**13** Except for the income you are getting from the sale of indigenous forest products, what are the other benefits are you deriving from the sale of the indigenous forest products?

.....  
.....

**14** Is there any livelihood activity disrupted by the sale of indigenous forest products in your locality?  Yes  No

**15** If yes explain specify the activity and explain your answer

.....  
.....  
.....  
.....  
.....

**16** Is there any intervention being contributed by the government or other organizations to improve the profitability of the commercialization of indigenous forest products in your community?  Yes  No

**17** If yes specify the intervention

.....

**18** What challenges are you facing in trading in indigenous forest products in your community?

.....  
.....

.....  
.....

**19** What do you think can be done to improve the returns from commercialization of indigenous forest products in your community?

.....  
.....  
.....

**19** Except for agriculture, what are the other main livelihood activities do your household depend on

i).....  
.....

ii).....

iii).....  
.....

# **INTERVIEW GUIDE**

## **For the village heads and traditional chief in Hurungwe North**

- 1** What are the indigenous forest products being commercialized in Hurungwe North?
- 2** Where do the households which are engaging in the selling of indigenous forest products sell their indigenous products?
- 3** What may be the main reasons which lead most rural people to engage in the selling of indigenous forest products in Hurungwe North?
- 4** How is the selling of indigenous forest products in Hurungwe North helping to improve the lifestyles of the households in the community?
- 5** What are the main livelihood activities do most of the people rely on
- 6** What are the other livelihood activities in which rural households are depending on for their wellbeing?
- 7** How is the commercialization of indigenous forest products help to improve the incomes of the rural people in Hurungwe North
- 8** To what extent does the commercialization of indigenous forest products affected the other livelihood activities of the households in the community?
- 9** What are the major problems affecting the rural households in engaging in the sale, extraction, processing and transportation of indigenous forest products?
- 10** What do you think should be done to improve the profitability of commercialization of indigenous forest products?





