

**A COLLECTION OF YARSAGUMBA AND ITS IMPACTS ON
SUSTAINABLE LIVELIHOOD OF RURAL PEOPLE OF
RAHA VDC, DOLPA DISTRICT, NEPAL**

**A Thesis Submitted to
The Central Department of Rural Development,
Tribhuwan University,
In Partial Fulfillment of the requirements for the Degree of the
Master of Arts (MA)
In
Rural Development**

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DECLARATION

I hereby declare that the thesis entitled **A Collection of Yarsagumba and its Impacts on Sustainable Livelihood of Rural People of Raha VDC, Dolpa District, Nepal** submitted to the Central Department of Rural Development, Tribhuvan University, is entirely my original work prepared under the guidance and supervision of my supervisor. I have made due acknowledgements to all ideas and information borrowed from different sources in the course of preparing this thesis. The results of this thesis have not been presented or submitted anywhere else for the award of any degree or for any other purposes. I assure that no part of the content of this thesis has been published in any form before.

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LETTER OF RECOMMENDATION

The thesis entitled **A Collection of *Yarsagumba* and its Impacts on Sustainable Livelihood of Rural People of Raha VDC, Dolpa District, Nepal** has been prepared by **Bhakta Bahadur Budha** under my guidance and supervision. I here by forward this thesis to the evaluation committee for final evaluation and approval.

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APPROVAL SHEET

The thesis entitled **A Collection of *Yarsagumba* and its Impacts on Sustainable Livelihood of Rural People of Raha VDC, Dolpa District, Nepal** submitted by **Bhakta Bahadur Budha** in partial fulfillment of the requirements for the Master's Degree in Rural Development has been approved by committee.

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ACKNOWLEDGEMENTS

I would like to express my profound gratitude to my respected supervisor Prof. Uma Kant Silwal Ph.D., Central Department of Rural Development for his continuous guidance, advice and encouragement since the proposal preparation to report finalization. His constructive comments, untiring help, guidance, guidance and practical suggestions inspired me a lot to accomplish this work successfully.

I would also like to express my gratitude to Prof. Dr. Prem Sharma, Head of the Central Department of Rural Development, Tribhuvan University for providing an opportunity to carry out this project work on **A Collection of Yarsagumba and its Impacts on Sustainable Livelihood of Rural People of Raha VDC, Dolpa District, Nepal**. Similarly, I would also like to thank all the professor, Lecturers of Central Department of Rural Development for their continuous help, support and guidelines during two years study in the University.

Similarly, I acknowledge to Tribhuvan University Central Library of Kirtipur, and Library of Central Department of Rural Development for making the required books, journals and reports of past literature available.

I would also like to thank all my friends of Central Department of Rural Development for their outstanding company during my two year study in the University and their valuable contribution in preparing this report. I am also grateful to all my friends who provided me material support to accomplish the work.

Last, but not least, my deep love and respect goes to my parents and family members who always inspire and helped me a lot to build my educational career. I would like to hearty thanks to all Raha VDC peoples who directly or indirectly provided good environment and encouraged me during the time of research.

February, 2017

Bhakta Bahadur Budha

ABSTRACT

The research entitled **A Collection of Yarsagumba and its Impacts on Sustainable Livelihood of Rural People of Raha VDC, Dolpa District, Nepal**. The main objective of the study is to overview the economic impact of rural livelihood people Yarsagumba and analyzes resource sustainability over existing collection system.

Direct observation, participatory resource mapping, key informant's interview, formal, informal interviews and group discussion are used for the primary data collection. Secondary data were collected through the review of various books, published and unpublished literatures. The data thus collected were analyzed qualitatively and quantitatively.

Non-Timber forest products (NTFPs) are important sources of income generation to the subsistence farmers of Nepal. It enables them to purchase essential commodities such as salt, kerosene and aromatic plants from the forest has been going on since time immemorial. Forests are still considered as the primary source of these plants. Unfortunately, over exploitation of these plants has now posed a potential problem in the sustainable management of these natural resources.

The study showed that Dolpa district is rich in NTFPs, it is very important region in terms of collection practices and trade of Yarsagumba. The large volume of Yarsagumba is collected and traded from this region. It played a key role in the economic development of this district. People get seasonable more employment opportunities by collecting ,marketing and selling it. Their relatively high prices have provided attractive supplementary livelihoods for the local people.

In the study area, Yarsagumba is the main and primary income source for the households. 80 percent people face food problem for more than six months in a year. Yarsagumba collection seems to be the great income sources of the households. When they start to collect yarshagmba, their lifestyle also seemed to be upgraded. Furthermore their earning goes to the fooding and education. So Yarsagumba collection and marketing is the very much related with the livelihood of the people of this study area. NTFP (Yarsagumba) has higher contribution in community development. Similarly Yarsagumba is the major means of income generation and livelihood of the rural people of Raha VDC.

There exists a wide range of market links for NTFPs. However, the marketing systems are highly disorganized, and therefore the local NTFPs collectors have not derived much advantage from their traded NTFPs. There are no markets as other goods of Yarsagumba. In the season the buyers/traders go to community and the collectors always sell from the spot of collection. The major problems related to NTFPs (Yarsagumba) include lack of transportation facilities, lack of health facilities, lack of fuel wood and not getting appropriate price of yarsagumba etc. keeping in view NTFP(yarsagumba) as a major source of income for the majority of local people, sustainable use and organized collection of NTFP (yarsagumba) are urgently warranted.

TABLE OF CONTENTS

	<i>Pages</i>
COVER PAGE	i
DECLARATION	ii
LETTER OF RECOMMENDATION	iii
APPROVAL SHEET	iv
ACKNOWLEDGEMENTS	v
ABSTRACT	vi-vii
TABLE OF CONTENTS	viii-x
LIST OF TABLES	xi
LIST OF FIGURES	xii
ACRONYMS	xiii
CHAPTER: I	
INTRODUCTION	
1.1 Background	1
1.2 General Introduction of <i>Yarsagumba</i>	3
1.3 Statement of the Problem	3
1.4 Objectives of the Study	4
1.5 Significance of the Study	4
1.6 Organization of the Study	5
CHAPTER: II	
REVIEW OF LITERATURE	
2.1 A Brief Description of Study Area	6
2.2 Theoretical Literature Review	6
2.2.1 Yarsagumba: From the local perspective	10
2.2.2 Legal Mechanism for collection and trade of Yarsagumba	11
2.3 What is community?	12
2.4 Concept of Livelihood	13
2.5 Meaning and definition of Rural Livelihood	13
2.6 Sustainable Rural Livelihood System Analysis Framework	14

CHAPTER: III

METHODOLOGY

3.1 Research Design	15
3.2 Nature and Sources of Data	15
3.2.1 Nature of Data	15
3.2.2 Source of Data	15
3.2.2.1 Primary Data	15
3.2.2.2 Secondary Data	16
3.3 Study Site Selection	16
3.4 Study Population	17
3.5 Data Collection Methods and Tools	17
3.6 Reliability and Validity of the Tools	17
3.7 Data Processing Methods	18
3.8 Methods of Analysis	18

CHAPTER: IV

ANALYSIS AND INTERPRETATION OF SURVEY DATA

4.1 Demographic and Respondents Characteristics	20
4.1.1. Age and Sex Distribution of Population	20
4.1.2. Age Distribution	20
4.1.3 Sex Distribution	21
4.2 Socio-Economic and Cultural Environment	22
4.2.1 Occupation	22
4.2.2 Agriculture	23
4.2.3 Trade/Business	23
4.2.4 Livestock	24
4.2.5 Food Sufficiency	24
4.3 Yarsagumba: Rural Income	25
4.3.1 Yarsagumba Collection	25
4.3.2 Change in Market Price of Yarsagumba	26
4.3.3 Market Chain of Yarsagumba	28
4.3.4 Trading System at Local Level	29
4.3.5 Income from Yarsagumba	30
4.3.5.1 Income of Households from YG collection	31

4.3.5.2 Average Annual Income from YG Collection in Raha VDC	32
4.3.5.3 Trend of Family Member Participation in YG collection	33
4.3.5.4 Contribution of Yarsagumba to livelihood in Raha VDC	33
4.4 Participation in Collecting Yarsagumba	35
4.4.1 Trend of people's participation in YG Collection in RahaVDC	35
4.4.2 Peoples engagement to collect of Yarsagumpa and their Objectives	36
4.5 Royalty Collection	37
4.5.1 Trend of Royalty Collection in Raha VDC	37
4.5.2 Contribution of Collected Royalty in different activities	39
4.6 Economic Impacts in the livelihood of Rural People	40
4.6.1 Positive Impacts	42
4.6.2 Negative Impacts	43
4.7 Practices of YG Collection.	44
4.7.1 Collecting practices of YG	44
4.7.2 Problems	46
4.7.2.1 Geographical and Environment Complexities	46
4.7.2.2 Health and Sanitation	47
4.7.2.3 Transportation and Communication	48
4.7.2.4 Pollution	48
4.7.2.5 Weather	48
4.7.2.6 Security	49
4.7.2.7 Conflict	49
4.7.2.8 Accident	49
4.7.2.9 Low Price	49
4.8 Measures	49

CHAPTER: V

SUMMARY, CONCLUSION AND RECOMMENDATION

5.1 Summary	51
5.2 Conclusion	52
5.3 Recommendations	54

References

Annex I: Questionnaire

Annex II: Questionnaire

Annex III: Photos

LIST OF TABLES AND PHOTOS

Table 1.1 Legal Scenarios for Yarsagumba Management	12
Table 4.1 Age Distribution of the Respondents	20
Table 4.2 Sex Distributions of the Respondents	21
Table 4.3 Distribution of Respondents based on Occupations	22
Table 4.4 Legal Provisions for Holding Trading Licence	30
Table 4.5 Income of Households from YG Collection	31

LIST OF FIGURES

Figure: 3.1 Map of Study Area	17
Figure: 3.2 Research Flow (Methodology)	19
Figure: 4.1 Age Distribution of the Respondents	21
Figure: 4.2 Sex Distributions	21
Figure: 4.3 Status of Occupation	23
Figure: 4.4 Food Sufficiency of the Households in Raha VDC	24
Figure: 4.5 Trend of Average YG Collection Per Day Per Individual in Raha VDC	25
Figure: 4.6 Annual Yarsagumba Collections Per Individual in Raha VDC	26
Figure 4.7 Change in price of Yarsagumba Per Piece at Local Market in Raha	27
Figure 4.8 Change in Price of Yarsagumba Per KG at Local Market in Raha	27
Figure 4.9 The Market Chain of Yarsagumba in Raha VDC	29
Figure: 4.10 Income of Households from YG Collection in Raha VDC	31
Figure 4.11 Average Annual Income per HHs from YG Collection in Raha VDC	32
Figure: 4.12 No of Family Members Participated in YG Collection	33
Figure 4.13 Contribution of Different Sources of total Annual Income in Raha VDC	34
Figure 4.14 Status of Expenses in Different Activities in Raha VDC	34
Figure: 4.15 Trend of People's Participation in YG Collection	35
Figure: 4.16 Distribution of Respondents based on Objective of Participation	36
Figure: 4.17 Amount to be Paid as Entrance Fee Per Individual for YG Collection	37
Figure: 4.18 Total Amounts Collected from Royalty	38
Figure: 4.19 Expenses of Royalty in Different Social Activities	39

ACRONYMS

ANSAB	Asia Network for Sustainable Agriculture
BBP	Biodiversity Profile Project
BS	BikramSambat
CBOS	Community Based Organization
CBS	Central Bureau of Statistics
CCFUG	Chhumakuni Community Forest User Groups
CF	Community Forest
CFUG	Community Forest Users Groups
DCFUG	Deauti Community Forest User Groups
DFO	District Forest Officer
FY	Fiscal Year
GDP	Gross Domestic Products
GO	Government Organization
HMGN	His Majesty Government of Nepal
KG	Kilo Gram
KIS	Key Informant Survey
MAP	Medicinal and Aromatic Plant
MFSC	Ministry of Forestry and Soil Conservation
NBS	Nepal Biodiversity Strategy
NGO	Non-Governmental Organization
NTFP	Non Timber Forest Products
NTFPNN	Non-Timber Forest Products Network of Nepal
WWF	World Wildlife Fund
YG	<i>Yarsagumba</i>

CHAPTER: I

INTRODUCTION

1.2 Background

More than 60.43% (50.53 Male and 73.57 Female) Nepalese are actively engaged in farming activities for meeting basic needs (CBS, 2011). Being an agrarian country, forest resources play an important role in rural community livelihood in Nepal. Besides fulfilling basic needs, forests and its product generate income and employment in rural community. If rural people are made aware the important of forest and forest resources, and the forest resources are mobilized, they will be self-reliant in forest products. They could as well enter a new era of forestry for rural development.

Forest is one of the important natural resources of Nepal that is directly related to the livelihood of rural people. The country comprises around 4.27 million hectares of forest which is 29% of total land area, 1.75 million hectares of grassland (12% of total land area), 3.0 million hectares of farmland (21% of total land area), and about 1.0 million hectares of uncultivated inclusions (7% of total land area) (DoF, 2010).

Livelihood of mountain people largely depends on the collection and trade of medicinal and aromatic plants (MAPS) and other non-timber forest Products (NTFPS). Importance of Nepali MAPS can be manifested by three ways. Firstly, wild medicinal plants are an important part of local health care system due to poor access to modern health amenities.

Secondly, trade of MAPS as raw and processed material to medicine producers and the perfume industry crucial income to rural collectors. Thirdly, MAPS are an important part of the species richness of Nepal.

Nepal has revealed that more than 50% of the household in every village are involved in collection of MAPS for sale since last 15 years, there is growing interest to study medicinal plants in search of new medicines backing up to traditional practice.

The Himalayan inhabitants have used plants since many hundreds of years. Medicinal plants are found wherever in Nepal. NTFPS are crucial for the rural livelihood and for their contribution for government or national treasury. It is also source of folklore medicines or unique method of health care of almost 90% of population in remote and rural area. The usage of many more natural products in day-to-day life of public shares its importance in Nepalese economy.

Yarsagumba is one of the high value low volume organic Himalayan medicinal herbs with increasing international market thereby contributing significantly in the local economies of the mountain people.

First discovered by yak herders in the Himalaya of ancient Tibet & Nepal *Yarsagumba* has been or mysterious creature with appearance of half-caterpillar half-mushroom.

Yarsagumba is rare but highly valuable medicinal plant *Yarsagumba* more especially (sinsness) is the top most valuable non timber forest product of Nepal Himalaya. It is highly demanded in national and international market and fetches the highest price running from Rs. 1200000 to Rs. 1800000 lakhs per kg (DFO,Profile 2072).

Yarsagumba is a costly medicine commonly used in China, Hongkong, Singapore etc. They used for life aging topic & to heat, kidney, lung & heart ailments, male & female sexual dysfunction, fatigue, headache, toothache, cancer, hiccups & serious injury to relieve pain & the symptoms of tuberculosis & haemorrhoids to restore general & appetite & to promote longevity.

Yarsagumba is endemic to Tibet plate are including the adjoining high altitude area of central & east Himalayan (Nepal, Bhutan & India such as Sikkim, Utrakh and, Himanchal, & Uttanchal Pradesh. It's generally habitat is considered in countries of central Himalayan such as; India, Nepal, Bhutan, Tibet, china etc.

The species famous as the gold rush of Nepal has its niche at alpine meadows /pasture above 3500 m. altitude. Its distribution is limited areas with an average annual precipitation above 3200-5000m. Secondary sources reveal that *Yarsagumba* is available mostly in central & western Himalayan of Nepal. Especially in Dolpa, Mugu, Jumla, Rukum, Darchula, Bajhang, Manang & Rasuwa district.

Series of Himalayas of Nepal, a country rich with biological diversity, considered to be famous in the world many kind of rare/scarce and important herbs from the ancient time. The main income source of local people of hilly and mountain region is collection and selling of herbs that have important contribution in rural and national economic development. YG is an important herb among the herbs, which have high trade in Nepal. The living cost of the mountain people of Himalayan region, where YG is found, to from the collection in and selling of YG. Among the total of revenue NRs 1800000 collection from the selling of the herbs of forest product in Dolpa.

1.2 General Introduction of *Yarsagumba*

Cordyceps sinensis is the scientific name of the *Yarsagumba*, a medicinal herb. The Tibetan name of *Yarsagumba* is literally means “*summer grass winter warm*”. *Yarsa* means semi animal and *Gumba* means semi herb. *Yarsagumba* has been known by various names such as *Yarcha Gumbu* in Tibet (Chhetri, R. (2005). According to report of Youth Partnership Program (2068 B.S), *Yarsagumba* also called as follows;

China- *Yarshakumbu*

English name- *Caterpillar fungus*

Botanical Term- *Cordyceps*

Scientific Name- *Cordyceps sinensis*

Japanese name- *Totsukasu*,

Local Dolpali name- *JeevanButi/Kira/Chyau*

1.3 Statement of the Problem

Developing countries in the world including Nepal are affected by vicious circle of poverty. More than 60.43% Nepalese are engaged in agricultural sectors and income level of such people is declining (CBS, 2011). So to break down such type of vicious circle of poverty, a country has to raise the income level of the people. There is no any dilemma that the *Yarsagumba* has been playing crucial role for the economic process. However, the main occupation of people in Dolpa is agriculture which is hardly sufficient for 3 to 6 months in an average. Besides the income source form agriculture, YG is the main alternative source of income.

Since the last few years, *Yarsagumba* has become a significant source of livelihood of the mountain people especially people of the central and western Himalayan of Nepal. People of Dolpa call the medicinal herb as *Yarsagumba*, *Kira*, *Chyau*, *Jeevan Buti* etc. Commercial collection of *Yarsagumba* in Dolpa has been started from 2051-52 B.S.

Yarsagumba is the one of the high value organic Himalayan medicinal herb. It is one of the major exposable cash productions of the mountain area. There is high demand of *Yarsagumba* in national and international market.

But here are some problems. First of all the problem is in collection of *Yarsagumba*. It is very difficult to collect the *Yarsagumba* due to cold, Sun shine, and lack of tools like gloves, warm shoes, clothes which are used in cold and snow areas. Besides those problems, other problems in collection are due to terrible and narrow trail, poor quality of food, insufficient clothes and shoes, lack of fuel and wood, health problem as diarrhoea, vomiting, jaundice, facial skin cracks etc.

Another problem is that it takes three days walk to reach the district headquarter so as to know the price of *Yarsagumba* and 70% of market price is taken by brokers and 30% by collectors. Thus here we can say there is no market access.

1.7 Objectives of the Study

The general objective of the study is to examine the contribution of *Yarsagumba* in Rural Livelihood of Raha VDC in Dolpa district. The specific objectives are follows;

1. To examine *Yarsagumba* collection practices.
2. To assess the impact of *Yarsagumba* in the livelihood of rural people.
3. To identify *Yarsagumba* collection problem and measures

1.8 Significance of the Study

Nepal has been trying to achieve sustainable development through conservation and sustainable use of the natural resources. The forestry sector has been always receiving priority in every national level plan during last four decades. Since the last decade, the “Master Plan for the Forestry Sector 1988” has been implemented by HMGN to meet the people’s need of forestry based products. Keeping in view, the conservation

aspect, land productivity and biodiversity, and promotion of medicinal and aromatic plants processing.

Yarsagumba is species out of 30 national prioritized species decided by Medicinal Plants and NTFP Coordination Committee on 14 March 2003. The ecological area of *Yarsagumba* lies in high mountain zone between 3500-5500 m from sea level. Little or no attention has been paid by government official for its proper management of by the resources for its study. *Yarsagumba* gets frequent publicity in many newspaper and publications but a systematic study of *Yarsagumba* is lacking.

The present study is important to access the role of YG in rural livelihood from income of YG trading and consequences to forest diversity due to YG collection. The study has accessed the understanding of local people in ecological aspects of YG, the trend of participation of rural people in YG collection, the trend of collection amount of YG. The trend price of obtained by collectors since 1998-2008 and price of YG at different stake holder levels was also recorded the present market channel of YG in Dolpa was determined with active participation of collectors and local traders. The role of YG in rural livelihood has been accessed in different livelihood assets especially physical and economical. The consequences to forest diversity due to YG collection was based on experiences of the collectors.

Research Questions:

- What is the economic impacts of VDCs people YG?
- How far the people are involved in collecting *Yarsagumba*?
- Is *Yarsagumba* supportive for income generating activities?
- What is the impact of *Yarsagumba* on rural livelihood?

1.9 Organization of the Study

The present study is divided into five chapters. The first chapter deals with introduction of subject matter. The second chapter deals with the research review of literature. Third highlights the research methodology. Fourth chapter includes the analysis and interpretation of data and finally summary, conclusion and recommendations will be deal in fifth chapter.

CHAPTER: II

REVIEW OF LITERATURE

2.1 A Brief Description of Study Area

The study area of this research is selected Raha Village Development Committee (VDC) which is located in Dolpa, the largest and mountainous district of Karnali zone. It lies in the mid-western region of Nepal. It is located between 28° 24' N- 29° 43' latitude, and 82° 24' E - 83° 38' longitude, the elevation in Dolpa ranges from 1,525 to 7,625 m. (5003 to 25,016) above sea level (DDC Profile, 2072). In Dolpa, *Yarsagumba* is collected from 24 pastures during the period of May-July every year. Among these pastures Raha VDC is one of the highly fertile areas for the good production of *Yarsagumba* and has 173 households (HHs) and a total population of 923. Raha VDC including three villages, lies on the North of headquarters Dunai and it takes 3 hours to reach Raha from Dunai. The VDC is famous for *Yarsagumba*. Thousands of people from different districts come in this VDC to earn money by collecting *Yarsagumba* every year in the month of May-July (DDC Profile, 2072).

2.2 Theoretical Literature Review

A few studies have been done by the research workers on the basis of *Yarsagumba* in Himalayan districts. Complexities of geographical structure, lack of transportation, inadequate finance and constraint of socio-economic aspects might be the causes for research workers to conduct such kind of study in the Himalayan region. However, some of the books, reports, articles, journals etc. have played a significant role for new researchers to conduct study and to gain knowledge about *Yarsagumba* for readers as well.

Theoretical study focuses the historical background of *Yarsagumba*. *Cordyceps sinensis* (*Yarsagumba*), is one of the best traditional Chinese medicines with great benefits to human health and huge economic value and has become the most important source of cash income in wide areas of the Tibetan Plateau where it is known as *yartssagunbu*, “summer grass, winter worm” (Dong, 2010), (Winkler,

2010). Both of these studies have declared that, *Yarsagumba* is collected in most of the Himalayan countries like Nepal, Bhutan, China, India and Tibet.

According to Shiva Devkota,(2006) the power of *Yarsagumba* was discovered 1,500 years ago in the Tibetan mountain pastures. Chinese herdsmen noticed that their cattle and livestock became energetic after eating grass-like mushroom, even older cattle displayed a vigorous behaviour. It had been used in different disease. It is started to collect *Yarsagumba* in Dolpa from 1987 as a medicinal purpose.

Yarsagubma, aka Himalayan Viagra, is believed to cure sexual impotency and other diseases as well. It is highly demanded in national and international market with high price according to its quality.

Devkota and Anil, “A study on Ethno-ecology, Regeneration Pattern, Collection Techniques and Trade of *Yarsagumba*,” annual report noted that the *Yarsagumba* are important component of rural livelihood, as they play crucial role in natural economy and help sustain livelihoods of many rural households that include socially and economically disadvantaged groups. Most of the people in these groups collect and sell forest products to meet their hand to mouth. They explain about uses practice, Collection methods, Collection techniques and impact of over grazing, soil analysis, and, YG collection and its socio-economic impact in Dolpa District (Devkota and Anil, 2006).

Similarly Raju Chhteri and Bharat Gotame have done study on Employment Generation and Economic Up-Scaling from Collection and Trade of *Yarsagumba* (*Ophiocordycpssinensis* Berk.) In Nepal, a case study in Dolpa district in 2009, that stated, Dolpa district has a great potential to create employment opportunities and uplift the economic state of the rural people through collection and trade of *Yarsagumba*. According to their research a total of 520,000 man-days employment was created during the *Yarsagumba* collection throughout the district and the average income per man-day was NRs. 1,200. And there was above NRs. 390 million economic gains at local level and NRs. 1794 million in the national context from the trade of *Yarsagumba* in Dolpa district in 2009.

Geoff Childs and Namgyal Choedup, in their research on “Indigenous Management Strategies and Socio-economic Impacts of *Yarsagumba* (*Ophiocordyceps Sinenseis*)

Collection in Nubri and Tsum, Nepal 2012” state that, the *Yarsagumba* has become an important contributors to household economies that during harvest season local school shut down and parents recall their sons and daughters who are living out of their village to pick *Yarsagumba*. Everyone engages in the harvest. They further explained that after collecting the *Yarsagumba*, the harvesters sell it to the middleman. Most of villagers invest their income to fulfil their basic needs and the rest of income invest on education to their children, buying land, jewellery, donating to monasteries and so on. The income is especially important for poorer families who have little land and cannot produce enough food for the entire year, but now purchase food from the market.

The most of studies have focused the crucial role of *Yarsagumba* on socio-economy aspect of rural livelihood more than any negative impact. Although some of above mentioned studies have tried to bring out the negative impacts from collecting *Yarsagumba* in the Himalayan society as well. Some of them reported that many people worry about negative developments associated with the *Yarsagumba* trade, including a sharp rise in drinking. People drink a lot, get into drunk on and get into fights. They also engage in gamble day and night. Sometimes local communities and other harvesters make dispute and it turns into fights between them about the royalty charge imposed by local communities to the harvesters. Though, it has become the important cash income for the different classes of people.

Similarly, research on “Collection of *Cordyceps Sinensis* (Berk) Sacc. in the Interior Villages of Chamoli district in Garhwal Himalaya (Uttarkhand) & its Social Impacts” 2010, done by Narayan Singh, Rakshita Pathak and other have also explained about the negative consequences from the Collection of *Yarsagumba* that people are not concerned about the agricultural and husbandry products. Social relations between villagers and villages are spoiling because of its illegal trade and collection. People are not also interested in goat and sheep rearing while this is the main traditional occupation for them.

Relating to the above mentioned situation, other several studies have shown difficulties faced by collectors while Collection YG that harvesters live at high altitude with improper and untimely food can have significant risk on one’s health, mainly causing diarrhoea, altitude sickness, and headache. Gradually, the Collection of *yarsagumba* has created the serious problems as living in snowy highlands for

couple of months with unfavourable climatic conditions, improper food and cold environment that has directly hampered the collectors' lives. Regardless of just earning money from collecting and selling of *yarsagumba* some of people every year lose their lives due to the unfavourable climatic conditions, oxygen deprivation in the highlands, gangs fight issuing over grazing rights, or due to food indigestion. Beside this fact, schools also start close by the begging of May as *Yarsagumba* Collection season starts to near and most of students miss their school days in preparing for their trip to search *Yarsagumba*. Students, the future pillar of any country, are compelled to miss their schools heading to highlands to pick YG because there is no any alternative way of earning cash income with in short period of time and can afford to pay for schools fees and stationeries after Collection and selling *yarsagumba*.

Even though, *yarsagumba*, a rare priceless herbal plant, has played a significant role in the lives of Himalayan people for a long time. There is no any alternative source of income except *yarsagumba* in mountain districts so all of Himalayan dwellers have to rely on income from *yarsagumba* to meet their fundamental needs. Living standards of people have been improved and economic status of families has been raised by *yarsagumba* harvest in remote villages in the country.

An article (Hunt for *Yarsagumba* by Ghimire (2006) has stated that, during the months of May to July thousands of villagers from remote areas risk their lives and head to the high altitude pasture to harvest *yarsagumba*. The collection of *yarsagumba* plays vital role in the lives of Dolpo inhabitants; most of them are utterly depend on the income from *yarsagumba* for the rest of the year. (Ghimire, 2006)

Since this kind of study has not done yet especially in Dolpa district, so I am interested in it. The district is recognised as very fertile district for *yarsagumba* production.

Therefore the study site is very suited for assessment of the impact of *yarsagumba* on socio-economic aspect of the Himalayan communities in Dolpa.

2.2.1 Yarsagumba: From the Local Perspective

Although science has its own way of describing the *Yarsagumba* but the local people and outside collectors in Dolpa describes *Yarsagumba* as a Jiwan Buti, Chyau, Kira and Jara (“Jiwan” refers to life and “Buti” refers to herb, “Chyau” refers mushroom, “Kira” refers to insect and “Jara” (refers to root) respectively which is energetic in nature and traditionally it is used to cure disease like headache, backache, anaemia, tiredness etc. (Chhetri, 2005). They are also aware of its uses. According his research local people used it as tonic and sexual stimulant for both sexes and some of other used it in different disease using their local knowledge.

Similarly, the several studies have stated that very beginning of the days, people used to give *yarsagumba* to their friends and relatives as a gift. People paid more concern about the use of *Yarsagumba* later when it is highly demanded in national and international market. All men and women head to the Patan (mountain pastures) to collect *Yarsagumba*, is popularly known as “Jivan Buti” (which literally means lifesaving drug) among the local people in Dolpa, for several days with hoping of good income from collecting and trading of *yarsagumba* (Ghimire, 2006).

Today *Yarsagumba* is traded widely as a powerful tonic in Chinese medicine is often referred to as “Himalayan Viagra” in the media. *Yarsagumba* has become the mainstay of household economies across the Tibetan Plateau and highlands of Nepal, India and Bhutan (Zhang et al: 2012). According to the harvester who was involved in *Yarsagumba* collection, children who are living elsewhere are called to be participate in collecting *Yarsagumba* because they can earn cash income within very short period of time. As one man stated “In our village, all recent developments and rises income due to the collection of *Yarsagumba*, that is why everyone engages in the harvest of YG neglecting their household and agricultural activities”. Local schools and villages also remain vacant throughout the district.

Everyone accepts that it has been giving lucrative income to the YG harvesters since they started collected but the villagers are worrying about the rising problems in the society due to the cause of trade of *Yarsagumba*. Especially men engage themselves in gambling and drinking when they get cash income after selling YG. In addition to this, men get drunk and get into fights. People have changed their habits slightly to

the use of more expensive and luxurious goods leaving to save and fulfil their necessary needs. Villagers assume that, people have become lazy and seem careless in agricultural activities because YG has become an easy way of earning money (Chhetri, and Gotame, 2009). Though it has played the vital role to uplift the economic status of the villagers and supported their livelihood respectively

2.2.2 Legal Mechanism for Collection and Trade of Yarsagumba

Every year 10,000 to 15,000 tonnes of non-timber forest products (NTFPs), representing around 100 species, are harvested from forestland in Middle Hills and High Mountains of Nepal and traded them to India (Edward:1996). The NTFPs traded fall roughly into two groups: high value products from high altitudes and low value products from low value products from lower altitudes (below 2000m).

The most important category is here referred to as “Medicinal and Aromatic Plants (MAPs). The government has banned the export of nine NTFPs in their unprocessed form: *Cordyceps Sinensis (Yarsagumba)*, *Sugandhakokila*, *Panchaule*, *Jatamasi* or *Bhulte*, *Sarpagandha*, *JothSalla*, *Sugandhawal*, *Silajit*. All nine products are believed to be threatened by over exploitation, and they are banned in order to encourage biodiversity conservation and raw materials processing within Nepal. But *Yarsagumba* has been allowed to collect and export since 2001.

Even though the collection and trade of *Yarsagumba* started in Dolpa district since 1998, Government of Nepal (GoN) has legally banned the collection, use, transport and trade in Nepal until 2001 and imposed a penalty of NRs 500 per piece to control its trade. The Government of Nepal has lifted the ban on collection, use and trade of *Yarsagumba* in 2001 but controlled trade with the restriction over export of unprocessed product and charging high royalty rate of NRs 20,000 per kg, which encouraged local traders to smuggle via upper open boarder to Tibet. But in 2006, the legal provision of processing for export was removed and the high royalty rate was also reduced to NRs 10,000 per kg and it exists until now. Several news has highlighted the YG has been illegally exporting to Tibet by the local traders without issuing collection permit and release order that directly decreased the national revenue. The legal scenario of *Yarsagumba* management is presented in the following table.

Table: 1.1 Legal Scenarios for Yarsagumba Management

S.N.	Act/Regulation	Legal Scenario
1.	Forest Act, 2049	Totally banned for collection
2.	Forest Regulation, 2051	Penalty rate NRs, 500/piece
3.	Nepal Gazette, 2058/9/16	Banned for crude form Royalty rate NRs, 20,000/kg
4.	Nepal Gazette, 2061/6/18	No requirement of processing Royalty rate NRs 20,000/kg
5.	Nepal Gazette, 2062/6/10	Royalty rate NRs 10,000/kg

Source: DFO Dolpa, 2010

In the context of Dolpa, people have been actively involving to harvest YG when the government lifted the ban on collection and trade with charging certain amount of royalty to the harvesters. Now days, most of Forestry Users Groups have taken the responsibility to collect royalty and NTFPs management under the rules and regulation and supervision of District Forest Office (DFO) for the last few years. But, illegal Collection and exportation of such valuable medicine herb has created serious concern to the authorities. Due to the illegal Collection and trading of it the revenue of the nation has been decreasing.

2.3 What is Community?

Generally we understand community as a group of people living together in one place and follow the same type of culture, traditions, language, customs etc. But the people define the community differently according to their notion. The English word “community” is derived from Latin word and it has come up with two words, ‘com’ + ‘munis’. The word ‘Com’ refers the meaning “together” and similarly the word ‘Munis’ refers the meaning “serving” respectively. It means the people do share their idea, religion, culture, tradition, norms and values, and so on living in a specific territory to achieve social goal. (Shrestha and Acharya, 2046)

About the definition of community different scholars have presented their idea. According to E.S. Bogardus “community is a social group with some degree of we feeling and living in a given area” and another scholar Talcott Parsons stated that “A

community is that collection the numbers which shares a common territorial area as their bases of operation for daily activities”. From above definitions we can know that the community means a group of people live in a certain area to fulfil their needs and goal by serving and sharing skills each other.

2.4 Concept of Livelihood

The term “Livelihood” simply means “the means for living” (Oxford Dictionary, 1998). The word “Livelihood” can be used in many different ways. The following definition captures the broad notion of livelihoods understood here: a livelihood comprises the capabilities, assets (including both material and social resources) and activities required for a means of living. A livelihood is sustainable when it can cope with and recover from stresses and shocks and maintain or enhance its capabilities and assets both now and in the future, while not undermining the natural resource base. (Chambers, *et.al.* 1992).

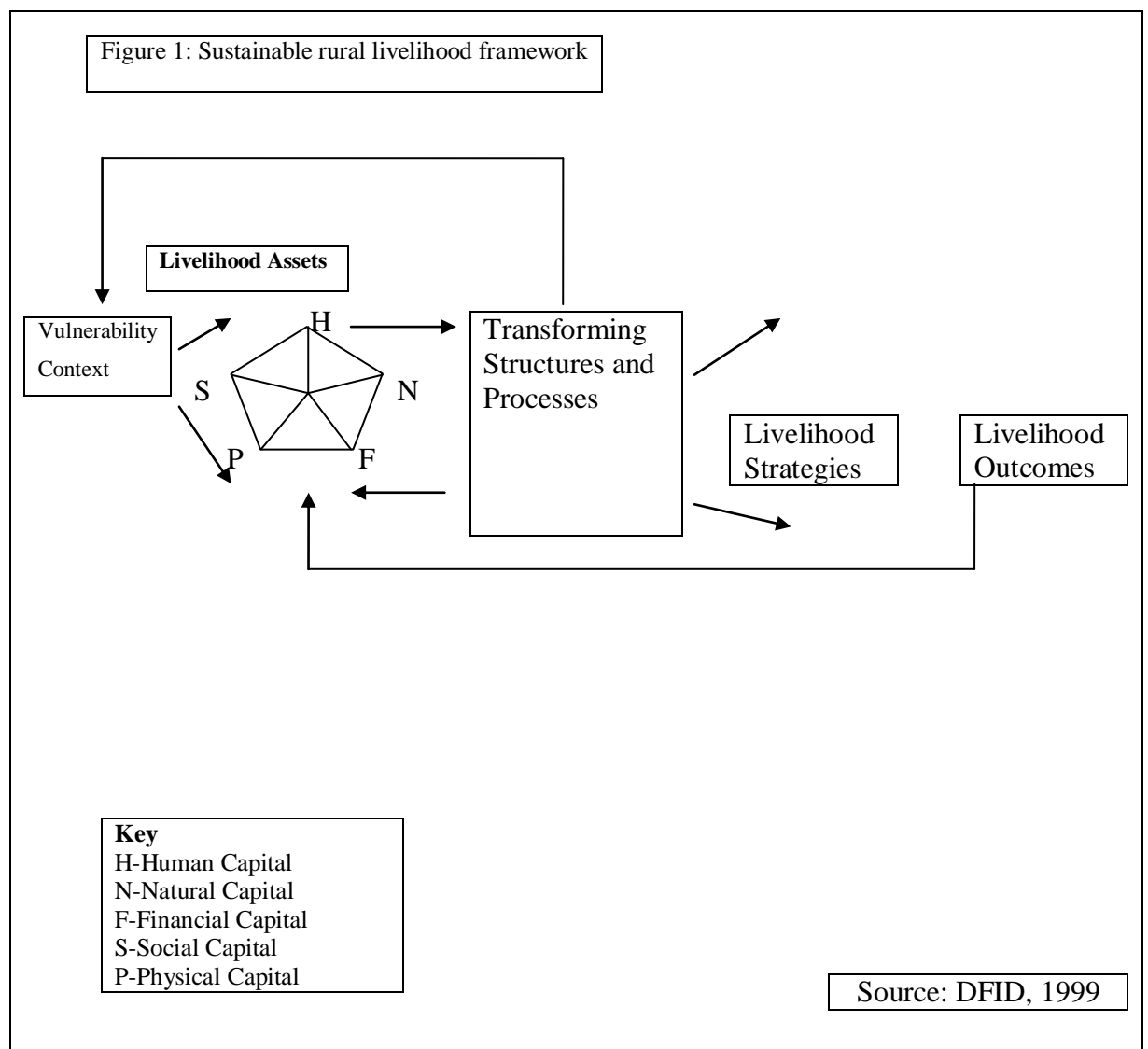
2.5 Meaning and Definition of Rural Livelihood

A person’s livelihood refers to their ‘means of securing the basic necessities –food, water, shelter and doing of life’. Livelihood is defined as a set of activities, involving securing water, food, fodder, medicine, clothing and the capacity of acquire above necessities working either individually or as a group by using endowments (both human and material) for meeting the requirements of the self and his/her households on a sustainable basis with a dignity (www.wikipedia.com).

In 1992 Robert Chamber and Gordon Conway purposed the following composite definition of a sustainable rural livelihood, which is applied most commonly at household level: “A Livelihood comprises the capabilities, assets and activities required for a means of leaving: a livelihood is sustainable which can cope with and recover from stress and shocks, maintain or enhance is capabilities and assets, and provide sustainable livelihood opportunities for the next generation and which contribute net benefits to others livelihoods at the local and global level and in the short and long term”.

2.6 Sustainable Rural Livelihood System Analysis Framework

The framework developed by the Department for International Development (DFID) present the main factors that affect people's livelihood, and typical relationship between them. It can be used in both planning new development activities and assessing the contribution to livelihood sustainability made by existing activities. This framework suggests that there are a number of basic elements, which interact and produce sustainable livelihood system in every area. Namely they are contexts, conditions and trends, livelihood resources, institutional process and organizational structures, livelihood strategies and sustainable outcomes.



CHAPTER: III

METHODOLOGY

This study had been carried out mainly on the basis of descriptive research design because the study had focused on to investigate the impact of the *Yarsagumba* on rural livelihood. Further this study will establish the economic impact and sustainable livelihood of the rural people.

3.1 Research Design

The research design of the study is descriptive and analytical to examine the Role of *Yarsagumba* in Income generating Activities. This study has described the past and present status of YG-collected quantity, status of market and market chain. This study has also assessed and explored the role of YG impacts on rural livelihood in different economic classes. The Research is designed to provide qualitative and quantitative information about economic impact of local people. Socio-economic and demographics data are collected through both qualitative as well as quantitative primary and secondary data.

3.2 Nature and Sources of Data

3.2.1 Nature of Data

Both quantitative and qualitative data were collected for the purpose of this study.

3.2.2 Source of Data

Both primary and secondary data were collected during this research work.

3.2.2.1 Primary Data

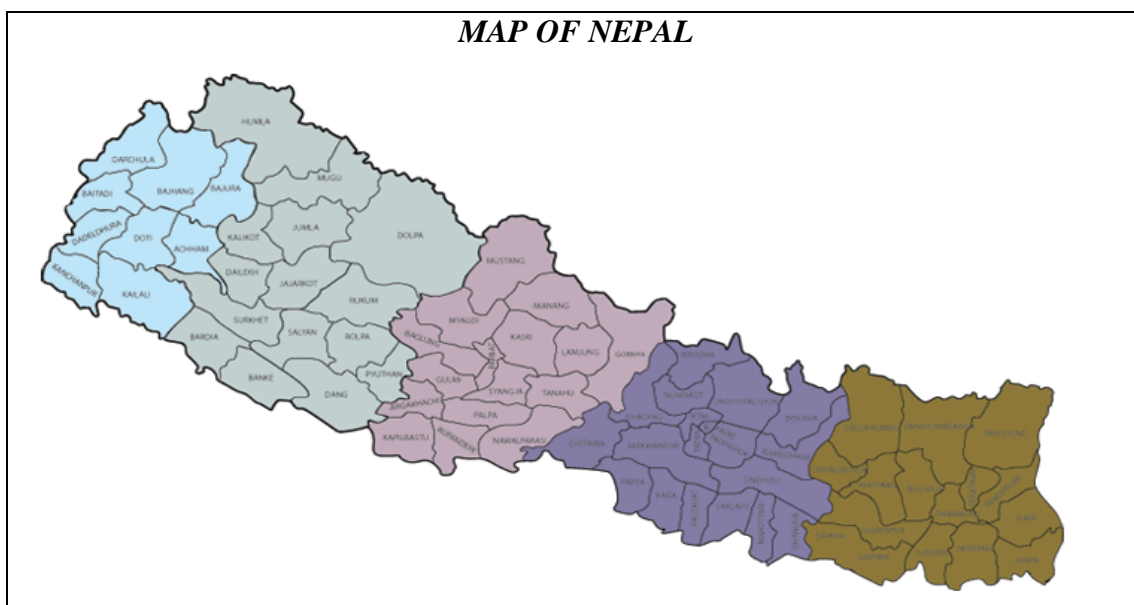
The primary data require at household level. Based on research objectives some structured questionnaire, key informant interview and observation checklist were developed to collect primary data.

3.2.2.2 Secondary Data

The secondary data were collected from different articles, institutional publications, government and nongovernmental reports, newspaper etc.

3.3 Study Site Selection

This study was carried out in Raha VDC of Dolpa District. Dolpa District is one of the five districts in Karnali Zone, located in the Mid-Western Development Region of the country. The total population of the Raha VDC is 923, among them 478 are male and 436 are female (CBS, 2011). This VDC has been selected after consultation with VDC Secretary, local leaders, NGOs and INGOs personnel of Dolpa. Raha VDC is famous for *Yarsagumba* in the district. Hundreds of thousands of people from nearest district come to this VDC for Collection *yarsagumba*. The major occupation of this VDC is agriculture and potato, barley, maize, wheat, millet, buckwheat, *chino* (Chinese millet) are some of the major crops. Agricultural products can be the good cash income for the villagers but they are compelled to store their products within them due to the lack of market access. Now, the *yarsagumba* has become the staple source of cash income to support their livelihood for last few years though there has not been much study in Nepal regarding use and its impact on socio-economic sector especially remote districts of the country. So, this research has explained somehow about the socio-economic aspect from collecting *yarsagumba* of the YG harvesters in the Raha VDC.



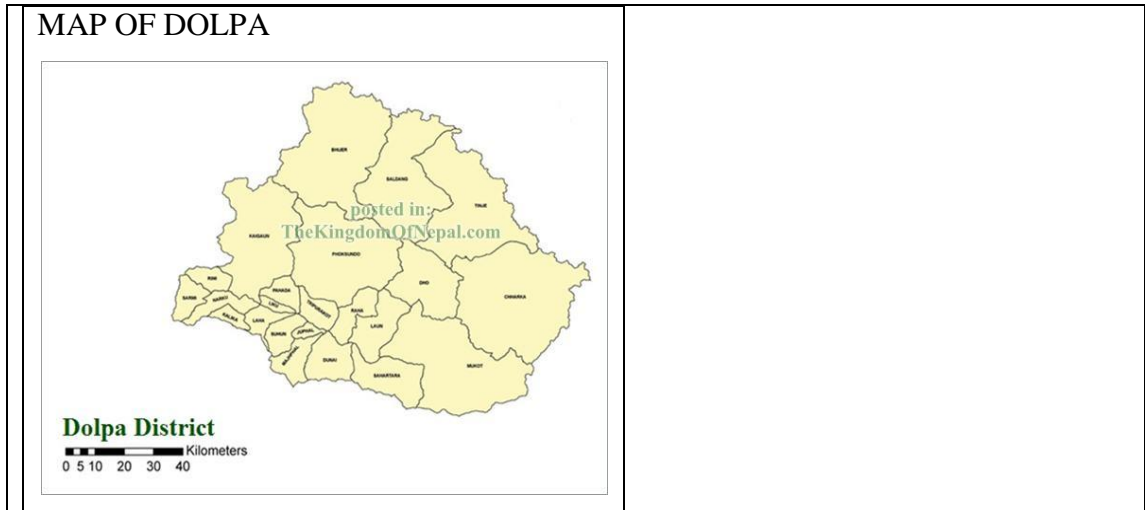


Figure: 3.1 Map of Study Area

3.4 Study Population

The purposed site of the study was Raha VDC, Ward no-1-9, Dolpadistrict. There are two *Yarsagumba* based community forest committee namely, Chumakuni and Deauti, which was formally established since 2059 B.S with the support of *Yarsagumba* conservation. Chumakuni had 15 members, 22 in Deauti. All together two users committee have 37 members.

3.5 Data Collection Methods and Tools

To collect actual and valid data from the study area is most important. Findings of the study depend upon the tools used in the study. In this study HHs questionnaire, KII questionnaire, FGD guideline and observation checklist developed by researcher himself was used is data collection tools. HHs questionnaire was divided in two parts. One part was related to general information of users' committee members HHs and another was related to research objectives.

3.6 Reliability and Validity of the Tools

To achieve reliable information the study tools must be reliable and valid. Before finalization of HHs questionnaire, KII questionnaire, FGD guideline and observation checklist, these tools were consulted and discussed with respective research guide/teacher (supervisor and experts) of the CDRD Tribhuwan University.

3.7 Data Processing Methods

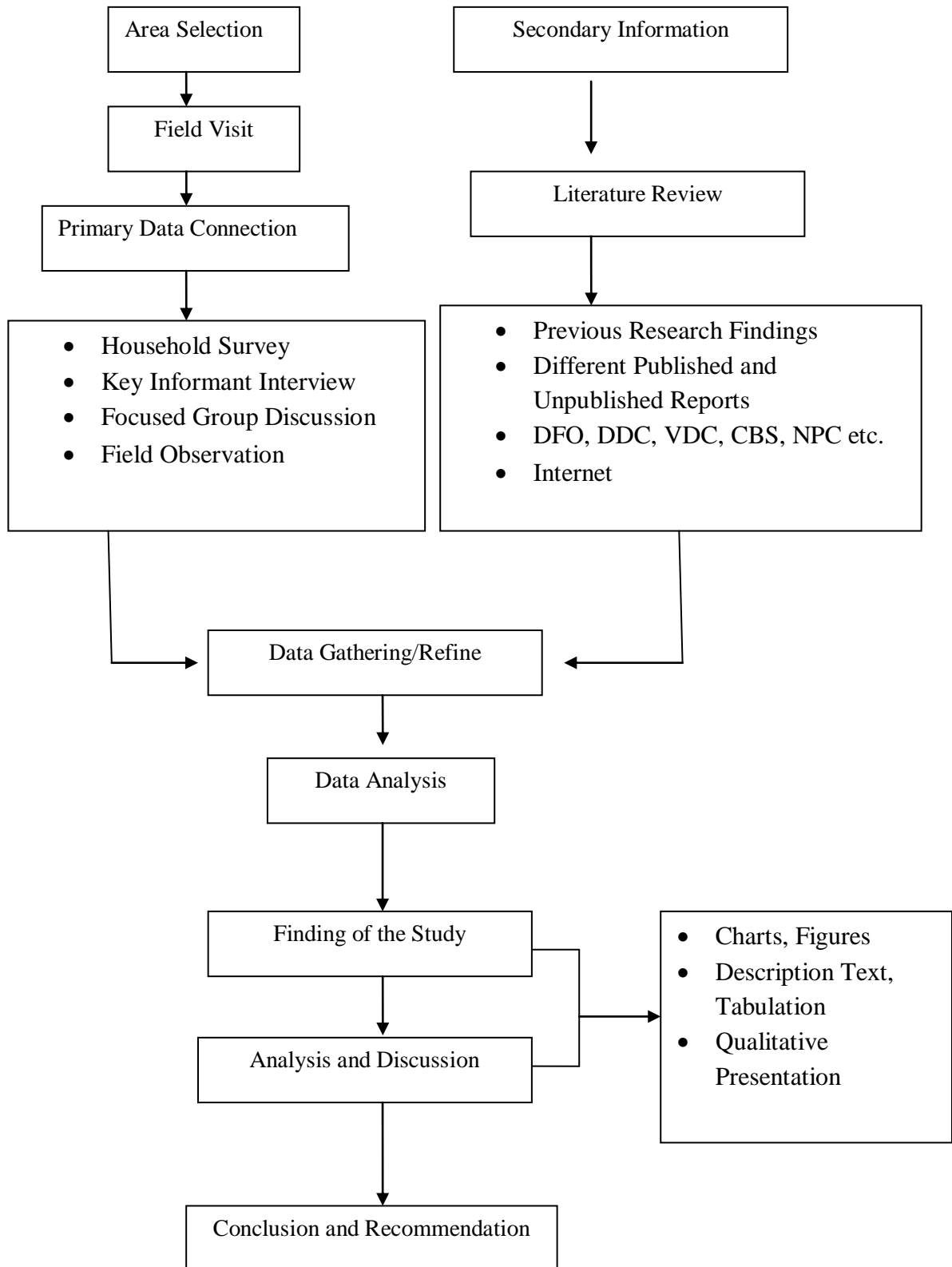
First of all, the researcher met the Community Forest Chair-person of Raha with a request letter from Central Department of Rural Development, T.U. Kirtipur and researcher explained the objective and implication of the study. After getting approval from the VDC authority, researcher conducted dialogue, conversation, and discussion and meeting with social leader, government and non-governmental personal, social group etc. for convenience in conducting research activities in their locality. Similarly, the data were collected by the researcher himself in a face-to-face interview method and filled HHs questionnaire, conducted FGD, KII and observation checklist as per planned schedule. The HHs questionnaire, FGD, KII and observation checklist were conducted in mutual understanding and approval of the respondents. After that, the primary data was collected through HHs interview questionnaire.

3.8 Methods of Analysis

Data analysis and interpretation is an important stage of the research process. The purpose of analysing the data is to change it from an unprocessed form to an understandable presentation. Raw data conveys little information as such. It must, therefore, be compiled, analysed, and interpreted carefully and meaningfully. After collecting the desired information or data through HHs questionnaire, FGD guideline, KII and observation checklist they were checked, verified manually to reduce possible error and categorized in different relevant headings and subheadings. Similarly, the data was tabulated in a master chart, table and figure (bar diagram, pie and column chart etc). Then, the raw data was processed with the help of excel sheet. It was kept on the sequential order based on the nature of the objectives. Finally, the data was analysed and interpreted.

Figure: 3.2

Research Flow (Methodology)



CHAPTER: IV

ANALYSIS AND INTERPRETATION

4.1 Demographic and Respondents Characteristics

4.1.1 Age and Sex Distribution of Population

The Dolpa is the district having lowest human population density in Nepal with population of 36,700 according to the census of 2011 (CBS 2011). Raha VDCs lies northern part of the district and the entire population of this VDCs is 923. Out of this 478 were male and 436 were female and the male-female ratio is 109.64%. According to the same report 44.79% of the total population was found to be below the age of 15 years, 50.58% was found from 16-59 years and 4.62% was found to be above the age of 60. The number and age group of the respondents are given below:

4.1.2 Age Distribution

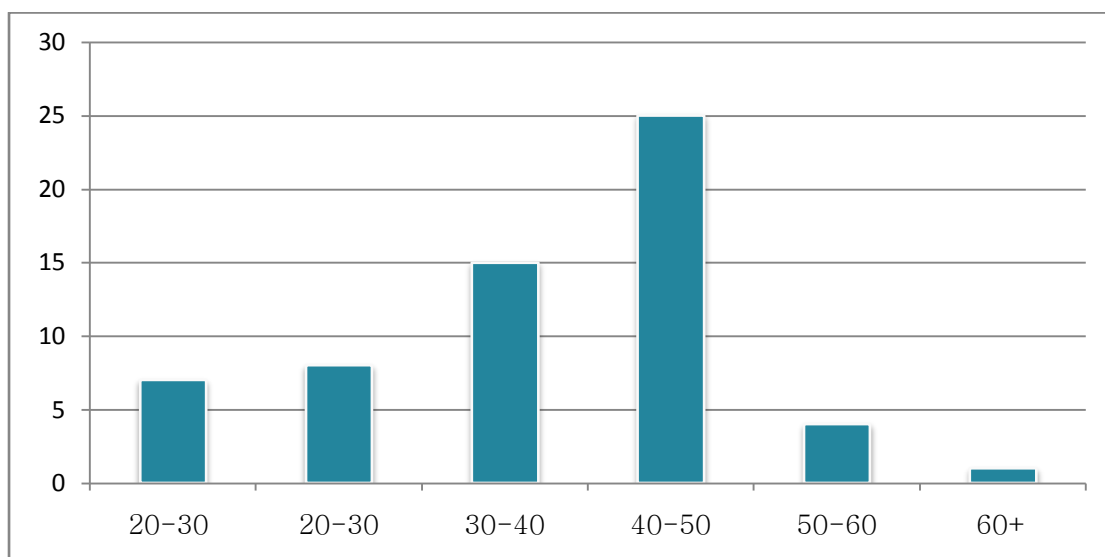
Table 4.1 Age Distribution of the Respondents

S.N.	Age Group	Frequency	Percent
1	10-20	7	11.67
2	20-30	8	13.33
3	30-40	15	25
4	40-50	25	41.67
5	50-60	4	6.67
6	60+	1	1.67
Total		60	100.0

(Source: Field Survey, 2015)

To get the adequate first-hand information of the study, the respondents of samples' categorized in different groups including their age. The large number of respondents was 25 from 40 -50 age group and low was 1 from above 60 years respectively. The above table can be shown in the bar diagram as follow:

Figure: 4.1 Age Distribution of the Respondents



(Source: Field Survey, 2015)

4.1.3 Sex Distribution

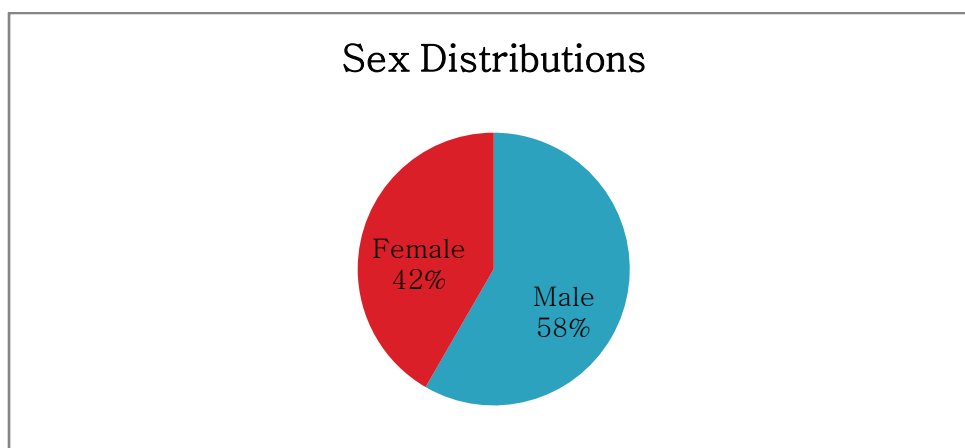
Table 4.2 Sex Distributions of the Respondents

S.N	Sex	Frequency	Percent
1	Male	35	58.3
2	Female	25	41.7
Total		60	100.0

(Source: Field Survey, 2015)

To make the study more gender based both male and female are selected according to the characteristics and objectives of the study. Out of 60 respondents, 35 male and 25 female were selected respectively.

Figure: 4.2 Sex Distributions



(Source: Field Survey, 2015)

Out of 60 respondents there were 35 male and 25 were female. It is 58 are male and 42 are female. The above table can be shown in the pie chart as:

4.2 Socio-Economic and Cultural Environment

4.2.1 Occupation

People observe different kinds of occupation to gain income for supporting their livelihood. In the study area out of all the economically active population more than 60 percent people were engaged in agriculture which was followed by trade, labour and livestock etc. The occupation of the respondents is widely distributed in the study which is shown in the following table:

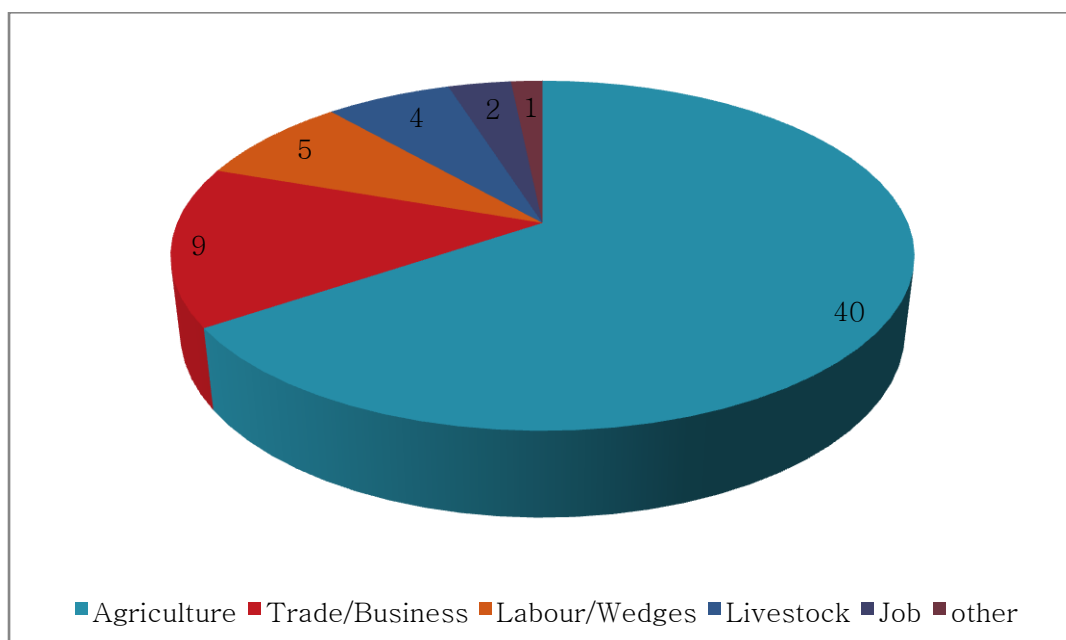
Table 4.3 Distribution of Respondents based on Occupations

S.N	Occupation	Number of Respondents	Percentage
1	Agriculture/Farming	40	66.67
2	Trade/Business	9	15
3	Labour/Wedges	5	8.33
4	Livestock	3	5
5	Job	2	3.33
6	Other	1	1.67
	Total Respondents	60	100.0

Source: Field Survey, 2015

Agriculture farming is the main occupation of Nepalese. According to the census 2011, about 60.43% people are engaged in agriculture. Without proper and modern technology people grow the grain using traditional equipment in farming for a long time. Due to the geographical complexities in the mountainous districts, the production of Himalayan is less than Hilly and Terai region. In the context of Dolpa and its one of the VDC Raha, most of the people are involved in agriculture sector. Form the above table; agriculture/farming is the main occupation of the local people where 66.67% were engaged which is followed by trade 15%, labour/wedge 8.33%, livestock 5%, job 3.33% and other 1.67% respectively. But in the peak season of *yarsagumba* Collection, percent HHs are involved in collecting YG.

Figure: 4.3 Status of Occupation



Source: Field Survey, 2015

4.2.2 Agriculture

Local substance economy depends mainly on agriculture, animal husbandry and business. About 90% of the total households are involved directly or indirectly in agriculture and animal husbandry. But their agricultural production is enough just for months. Agricultural land is very limited because most of the areas belong to cold desert. The productivity of the area is low because of lack of fertile land. The VDC produce different kinds of grains such as buckwheat, potato, wheat, maize, millet, barley etc.

4.2.3 Trade/Business

To fulfil their fundamental needs and to deliver services to the villagers, 15% people are found to be engaged in trade and business. Goods are being transported in the VDC by mules and horses from the nearest road head in Rukum district. Now days, *yarsagumba* has become the main source of seasonal income for the majority of the people. Most of people also are found actively involved in *yarsagumba* business themselves during the month of May-July.

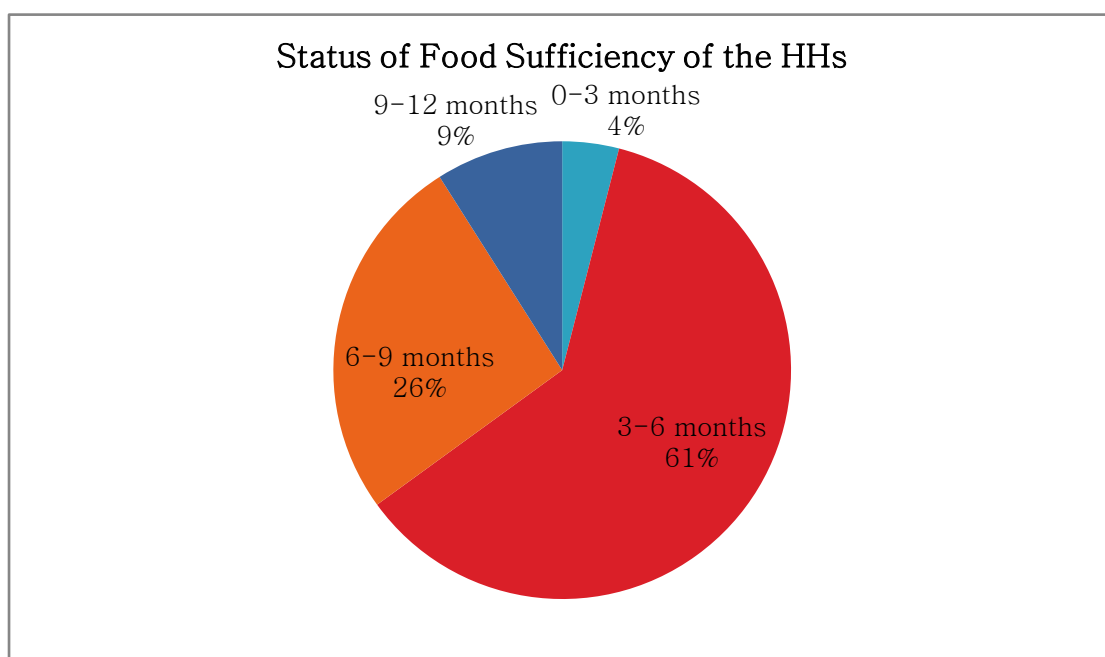
4.2.4 Livestock

Livestock, a main source of income, is the major component of subsistence farming in the highlands mountains of Nepal. Raha VDC lies in mountainous district Dolpa. From the research, it is found that all of the households having cattle like sheep, cows, horses, mules, buffalos, oxen, goats etc. Among them about 5% households are found to be engaged in rear up cattle for business purpose as mules are used for transporting goods from one to another place, horses are used to travel, sheep and goats are used for meat and offering gods/deities etc. By selling of these cattle people get good cash income to run their lives easily.

4.2.5 Food Sufficiency

It is heard through different reports especially VDC profile that due to the low production of local crops, people in the Karnali region being suffering from lack of food every year. Food is one of the fundamental needs for human being that can maintain the standard life if people have access of food sufficiency. So, the question based on food sufficiency was asked to the respondents in the research areas. The result was found as follow:

Figure: 4.4 Food Sufficiency of the Households in Raha VDC



Source: Field Survey, 2015

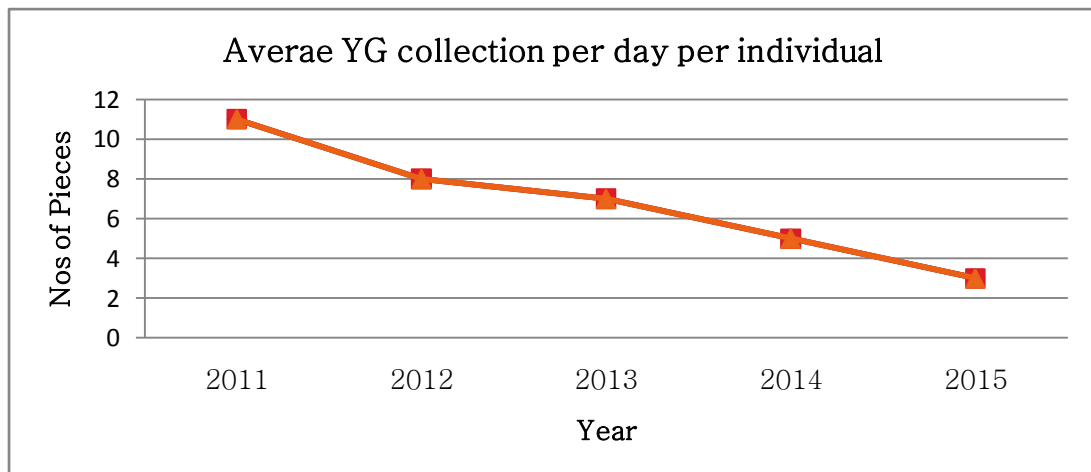
The data shows that, majority of HHs in Raha VDC have faced shortage of food. It is found that near above 61% people in the VDC have food insufficiency from 3-6 months, it is followed by 26% from 6-9 months, 9% from 9-12 months and only 4% HHs have food sufficiency for 3 months. So the above data clarify that, majority of HHs in the VDC is not worried about food sufficiency though the different data have declared about shortage of food every year.

4.3 Yarsagumba: Rural Income

4.3.1 Yarsagumba Collection

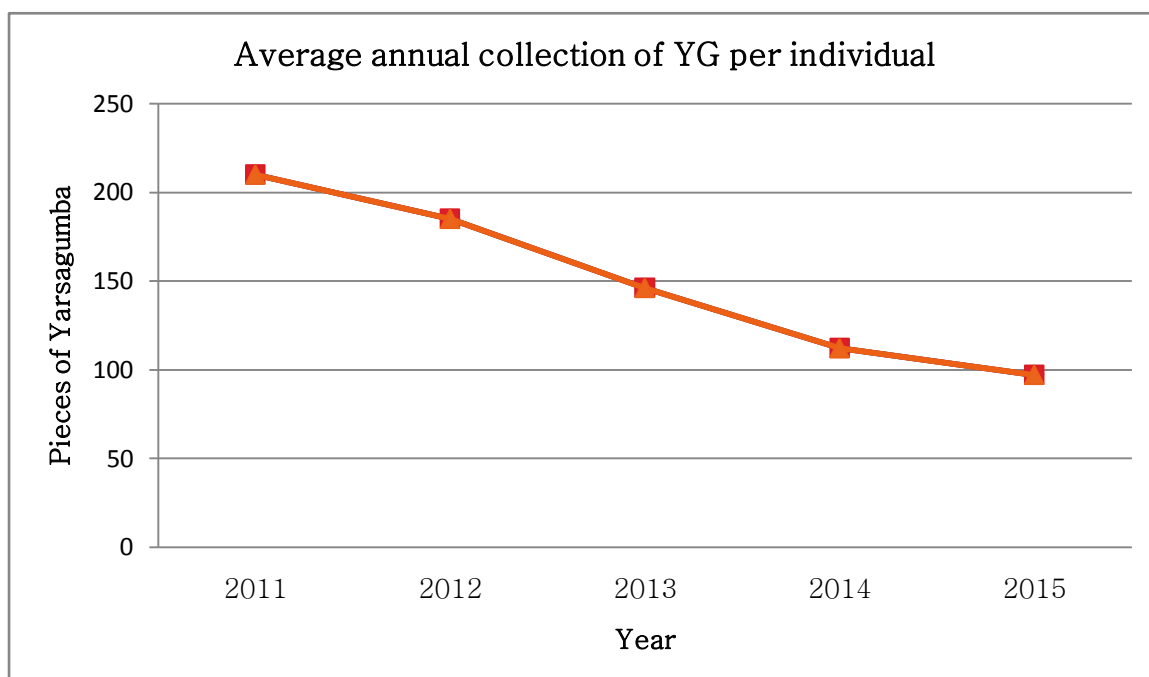
After the lifting ban on collection and trade of *Yarsagumba*, local people along other have been involving to collect YG actively for earning cash income. People more than one and a half of months remain in *yarsagumba* site making temporary shelter with their family members.

Figure: 4.5 Trend of Average YG Collection Per Day Per Individual in Raha VDC



Source; Field Survey, 2015

Figure: 4.6 Annual Yarsagumba Collections Per Individual in Raha VDC



Source: Field Survey, 2015

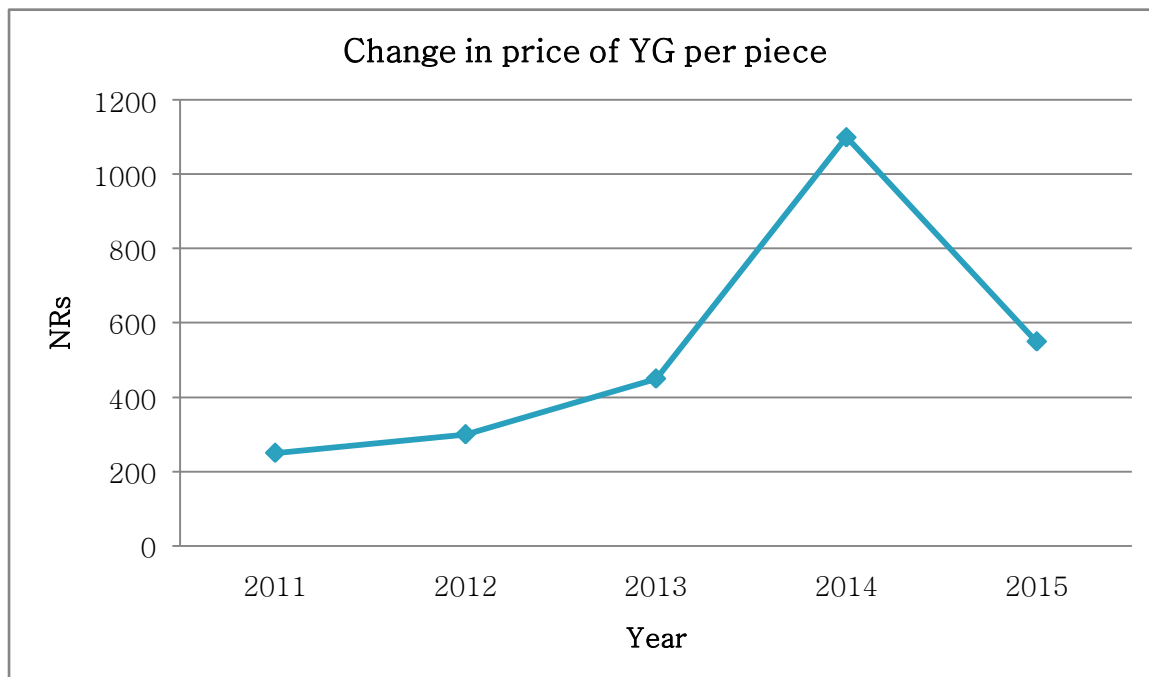
The above figures show that, the average collection of *yarsagumba* per day per individual and annual collection also are decreasing every year due to the various reasons. In the year 2011, the average collection of *yarsagumba* per day per individual was 11 pieces and it is gradually decreasing with 1/2 pieces every year. In 2015, only 3 pieces *yarsagumba* was collected by an individual per day. Similarly, the average collection of *yarsagumba* per individual is also decreased. In 2011, 210 pieces of *yarsagumba* was collected by an individual but coming until 2015 it was limited with only 97 pieces. Concerning about the decreasing of *yarsagumba*, people seemed a little bit nervous while collecting information but they expressed happiness about increasing price of *yarsagumba*.

4.3.2 Change in Market Price of Yarsagumba

The local people did not have any idea about value and market of *yarsagumba* before 1988. The price of *yarsagumba* was very low of NRs 700 per kg (Rs 2-3 per piece) in 1988. Since then the price of *yarsagumba* is continuously increasing and reached NRs 150,000 per kg in 2014 and declined to NRs 800,000 in 2015. (Figure 1.9) The price

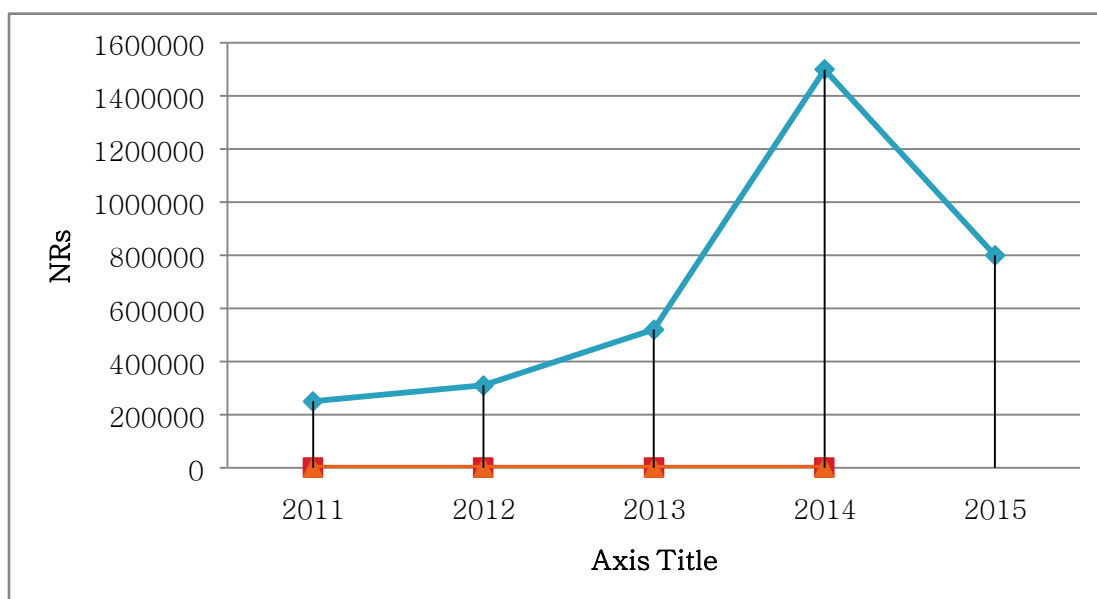
of *yarsagumba* is not fixed that sometimes it has increased and sometimes it has decreased randomly due to various reasons.

Figure 4.7 Change in price of Yarsagumba Per Piece at Local Market in Raha



Source: Field Survey, 2015

Figure 4.8 Change in Price of Yarsagumba Per KG at Local Market in Raha



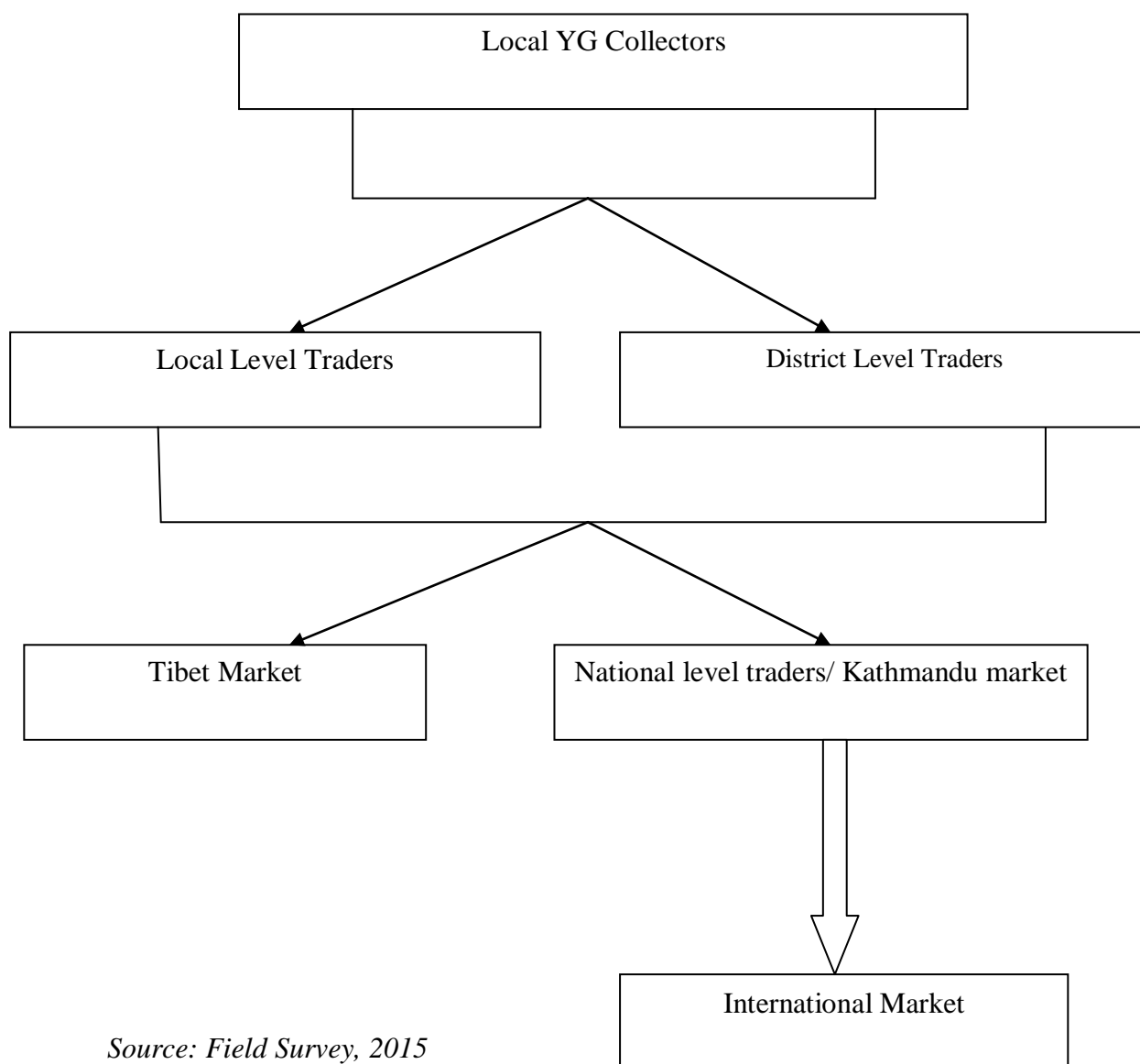
Source: Field Survey, 2015

The price of per piece of *yarsagumba* was NRs 450 and NRs 250,000 per kg in 2011 that the price of *yarsagumba* was increasing every year. In 2014, local collectors got NRs 1,100 per piece and NRs 1.5 million per kg in local market but it was declined in the year 2015 that they got only NRs 550 per piece and NRs 800,000 per kg of *yarsagumba* due to the uncertainty of market price. People seemed despair with decreasing price and production of *yarsagumba* in 2015. However, the market price is very lucrative for the local people than last 5 years except in 2014. After collecting the *yarsagumba* people sell it to the local traders.

4.3.3 Market Chain of Yarsagumba

In Raha VDC, from the data of Chhumakuni Community Forestry Users Group and Deauti Community Forestry Users Group there were more than 215 local level and national district level traders involved in *yarsagumba* trade. There were two ways of flow of the products from collection sites: one directly to Tibet via Phoksundo, Saldang, Tinje, and Vijer VDCs (the pathway to join district headquarter and temporary Tibetan market, open just for short term trade) and another way via Nepalgunj to Kathmandu then China, Honkong, Singapore, Thailand. The collectors from different districts collect *yarsagumba* at collection sites, generally they receive advance for the collection expenses from the village and district level traders. But the local people generally sell collected *yarsagumba* to district level traders or traders from outside district. The market/trade chain of *yarsagumba* is shown in the following chart:

Figure 4.9 The Market Chain of Yarsagumba in RahaVDC



Source: Field Survey, 2015

The above chart shows about trade channel of *yarsagumba* in Raha VDC that the local collectors/villagers sell their collected YG to both local and dist level traders then they sell to national level traders or they take it Tibet market for selling. The national level traders sell the buying YG to the international traders as per their reasonable price. Some traders take abroad via Kathmandu if they do have good relation with international traders.

4.3.4 Trading System at Local Level

The record of District Forest Office (DFO) Dolpa shows that legal trade of *yarsagumba* in Dolpa district was started since F.Y. 2002/03. At that time, the traders used to collect YG from harvesters without taking any legal licence for trading that

had made everyone easy to be involved in trading. According to the report of local CFUGs in Raha VDC, local trader and outer trader as well had to pay a few amount of money as deposit for holding legal licence for trading from local CFUGs since 2010. Still only the licence holders have been provided right to trade of YG at local level. If one who involves in trading without paying and taking licence, she/he has to face any kind of punishment by CFUGs. For holding legal licence of trading YG, traders have to pay different amount of money as a deposit according to their inhabitation which is shown in the following table:

Table: 4.4 Legal Provisions for Holding Trading Licence

To be Paid in NRs					
Year	2011	2012	2013	2014	2015
Traders from within district	1,000	2,000	2,000	5,000	5,000
Traders from out of district	1,000	5,000	5,000	10,000	10,000

Source: RCFUGs, 2015

Based on above table, in 2011 both local and non-local traders had to pay only NRs. 1,000 for trading licence then after it has been increasing every year. In 2015 local traders had paid NRs. 5,000 but on-local traders had paid NRs 10,000 for depositing and holding trading licence respectively. After getting legal trading licence through LCFUGs, they would get right to purchase YG freely from harvesters at local level. But traders throughout district have to pay NRs. 10,000 per kg to District Forest Office as royalty to export the product.

4.3.5 Income from Yarsagumba

Livelihood of people in mountains largely depends on the collection and trade of medicinal and aromatic plants (MAPs) and other non-timber forest products. *Yarsagumba* is one of the high value low volume MAPs in the country, is highly demanding in national and international market every year. Dolpa is very fertile land for the *yarsagumba* production. The local people have long experiences in the collection and trade of *yarsagumba* and getting good cash income after Collection and selling YG. Every year hundreds of thousands of people rush themselves to high pasture meadows to harvest YG leaving their home in Dolpa. So it has become good cash income for the local and other harvesters as well.

4.3.5.1 Income of Households from YG Collection

The main focuses of this study is to find out the yearly income and expenses of households after Collection and selling *yarsagumba*. So the income of households from YG collection has illustrated below:

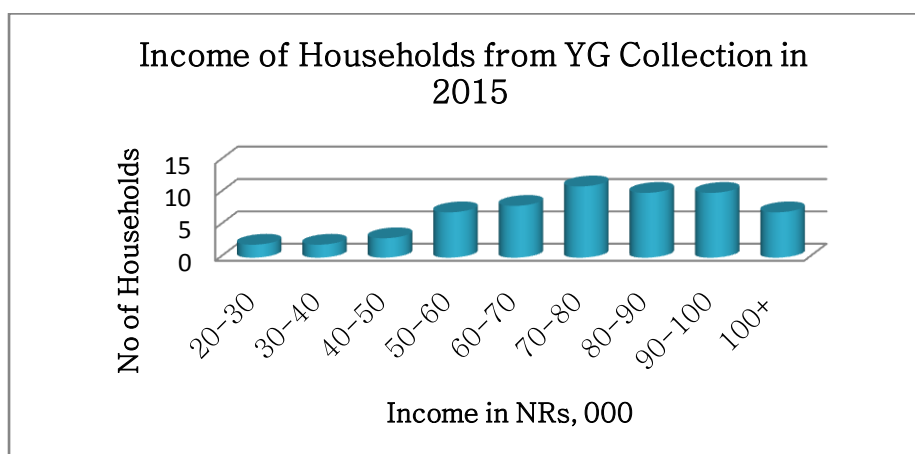
Table 4.5 Income of Households from YG Collection

S.N	Income in NRs, 000	No of Households	Percent
1	20-30	2	3.33
2	30-40	2	3.33
3	40-50	3	5
4	50-60	7	11.67
5	60-70	8	13.33
6	70-80	11	18.33
7	80-90	10	16.67
8	90-100	10	16.67
9	100+	7	11.67
Total	4,520	60	100.0

Source: Field Survey, 2015

As per the above table, the number of household of earning NRs 20-30 thousands was 2, 30-40 thousands was 2, 40-50 thousands was 3, 50-60 thousands is 7, 60-70 thousands was 8, 70-80 thousands was 11, 80-90 thousands was 10, 90-100 thousands was 10 and above NRs 100 thousands was 7 respectively. There are 14 households which was highest number have earned averaged NRs 50,000-60,000 and only 2 households have earned above NRs 100 thousands. The annual average income of per household is NRs 75.33 thousands in 2015.

Figure: 4.10 Income of Households from YG Collection in Raha VDC

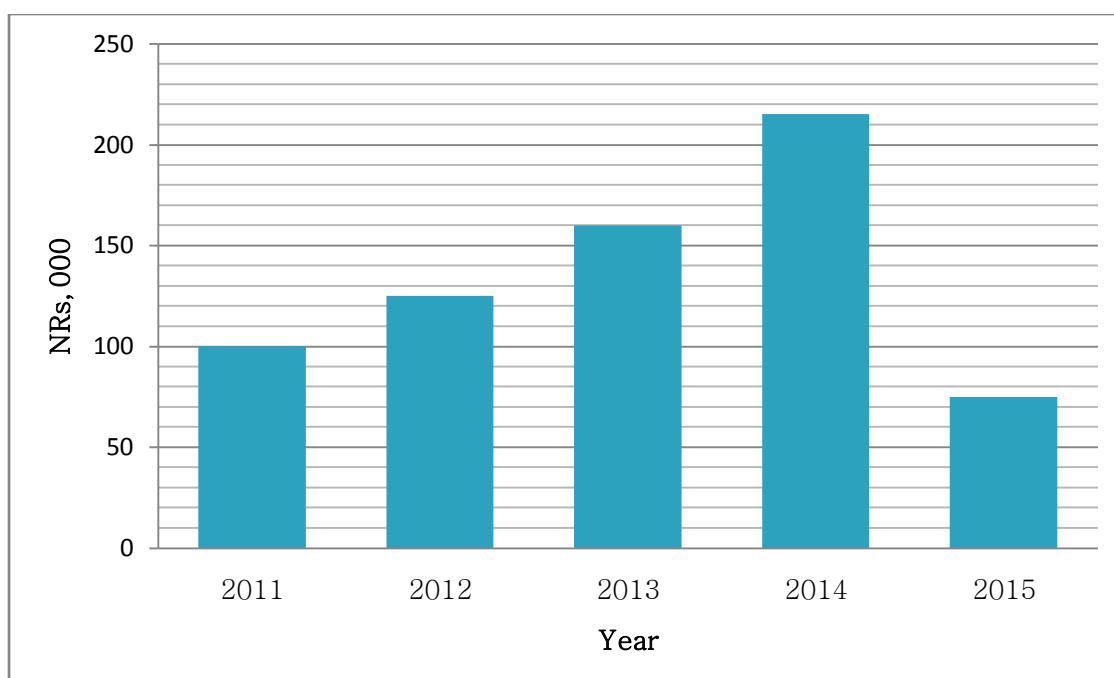


Source: Field Survey, 2015

4.3.5.2 Average Annual Income from YG Collection in Raha VDC

Near about cent percent local HHs was involved in Collection *yarsagumba* in 2015 and it was the same in precious year. Income of HHs was depends upon market price, colour, size and quality of *yarsagumba* every year. According to the local people, they may get good income if the market price of *yarsagumba* is high. They also stated, yellow coloured and thick in size of pieces of *yarsagumba* provides good income to them. The average annual income of HHs has shown in the following figure:

Figure 4.11 Average Annual Income per HHs from YG Collection in Raha VDC



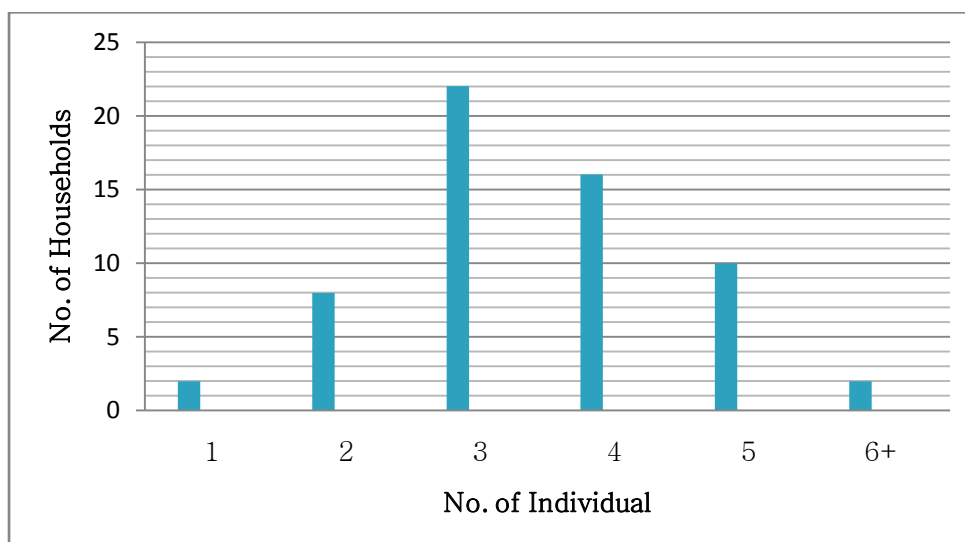
Source: Field Survey, 2015

To compare average annual income per HHs from *yarsagumba* Collection based on above data, the highest income was in 2014 that each HHs had gained NRs. 2,15,000 by selling YG in average but it was decreased in the following year that average income per HHs was only about NRs. 75,000. Similarly, average per HHs income was NRs.1,00,000 in 2011, is followed by 1,25,000 in 2012 and 1,60,000 in 2013 respectively. The above data shows there is less average per HHs income 2015 than they had earned previous year. According to the harvesters, the major cause to decrease in their annual income was less production and decreasing in price of *yarsagumba* than previous year. It could be seen nervousness in collectors' face by decreasing price and production of YG in 2015.

4.3.5.3 Trend of Family Member Participation in YG Collection

During the period of *yarsagumba* collection, most of the family members were involved in Collection YG. The No. of individuals from respondents households who were participated in Collection have been shown in the following figure:

Figure: 4.12 No of Family Members Participated in YG Collection



Source: Field Survey, 2015

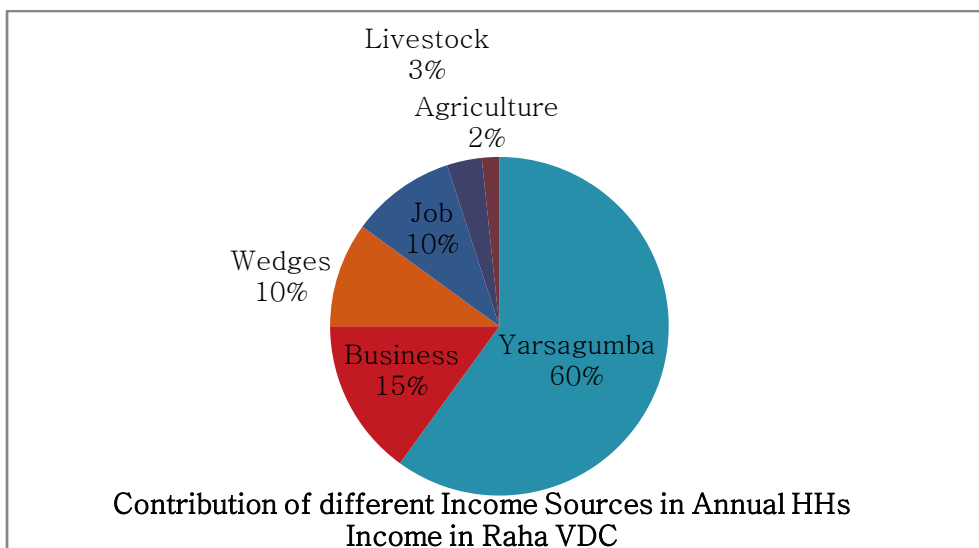
According to the above data, the participated family members in collecting YG is 1/1 individual was from 2 households, 2/2 were from 8 households, 3/3 were from 22 households, 4/4 were from 16 households, 5/5 were from 10 households and 6/6 were from 2 households respectively. And the average number of family member involved in collecting YG was 3.5 individual per households.

4.3.5.4 Contribution of Yarsagumba to Livelihood in Raha VDC

When the demand of *yarsagumba* was highly increased in national and international market with high price since then local people started to collect it seriously. For last a decade, local people have involving in collecting and trade of *yarsagumba* and getting good income. In my research work the staple source of cash income of RahaVDC was YG collection. All most cent percent HHs were engaged in Collection YG with their family members because it was an easy way to earn money than other task. School children were also involved taking an unofficial holidays for a month. According to

them, they can afford to buy stationeries for education only through Collection *Yarsagumba*.

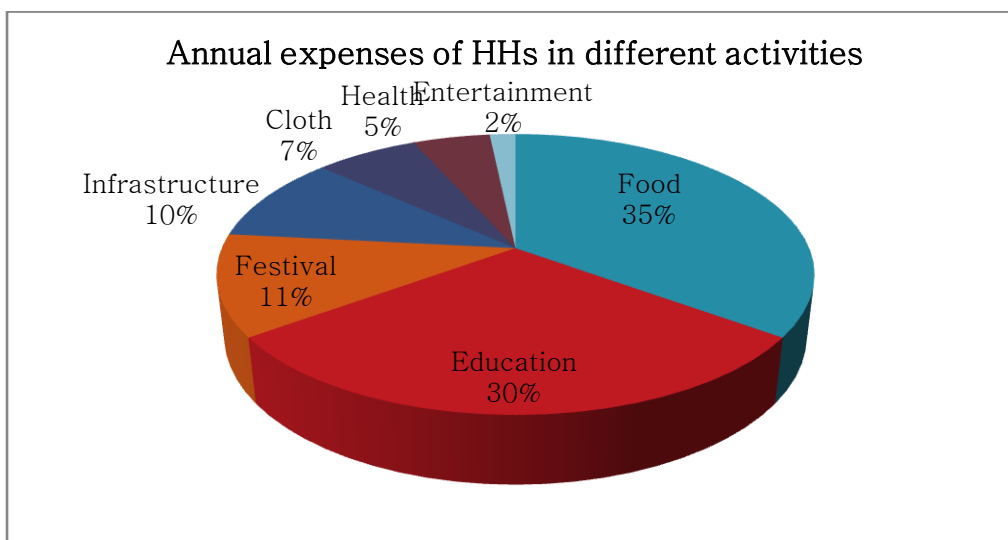
Figure 4.13 Contribution of Different Sources of total Annual Income in Raha VDC



Source: Field Survey, 2015

Based on above data, we can say that the main source of income of people of Raha VDC was *Yarsagumba* that contributed the highest amount (60 percent) of the total annual income of HHs, followed by income from business (15 percent), wedges and livelihood (10 percent), job (3 percent) and agriculture (2 percent).

Figure 4.14 Status of Expenses in Different Activities in Raha VDC



Source: Field Survey, 2015

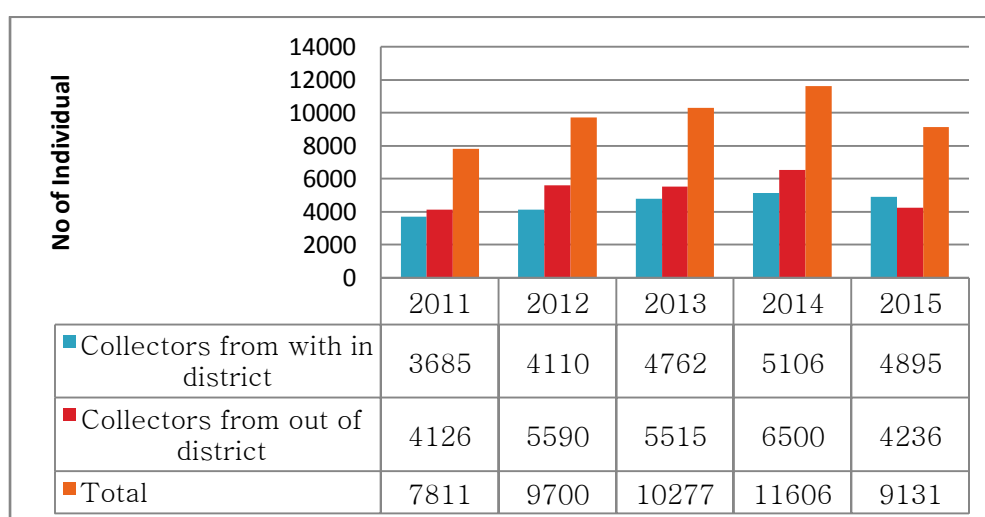
The highest amount of expenses (35 percent) was in food purchase, followed by investment on education (30 percent), celebrating festivals (11 percent), infrastructure (10 percent), buying clothes (7 percent), health care and treatment (5 percent), entertainment (2 percent) and so on. The income from *yarsagumba* nearly covers the expenses for food and education. Due to the lack of fertile land and its production people are compelled to purchase food. And the majority of boys and girls of the VDC study in out of district like Kathmandu, Pokhara, Surkhet, Nepalgunj, Dang, Chitawan: it might be due to significant income from collection and trade of *yarsagumba*.

4.4 Participation in Collecting Yarsagumba

4.4.1 Trend of People’s Participation in YG Collection in Raha VDC

Every year during May and June, thousands of villagers from remote areas risking their own lives head for high mountains to collect *yarsagumba*. Raha- a remote Village Development Committee in Dolpa district with high steep land dry climate is one of the foremost areas for collecting *yarsagumba*. In 2015, the huge numbers of people were involved in collecting *yarsagumba* at YG collection site in RahaVDC. Most of people had already been engaged except few one. The numbers of people who were engage in collecting YG is shown in the following chart:

Figure: 4.15 Trend of People’s Participation in YG Collection

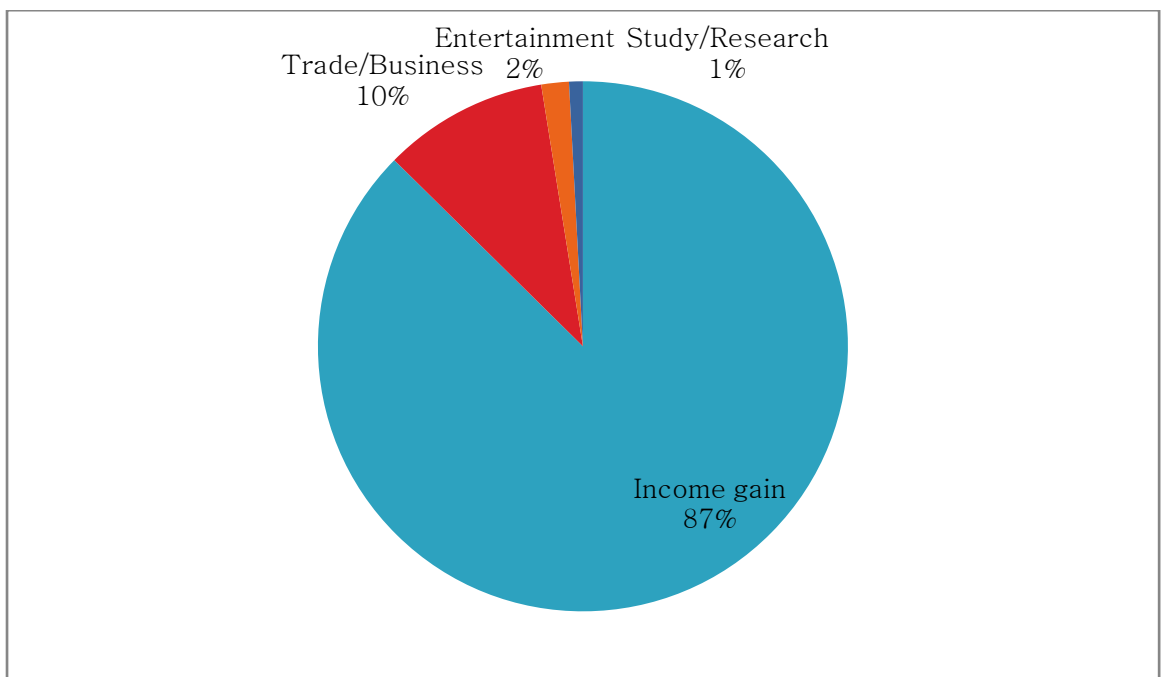


Source: DCFUGs and CCFUGs, 2015

Based on above data, we can say that the numbers of harvesters have been increased every year except in 2015. There were more than 9,000 individuals were involved in collection of *yarsagumba* in Raha VDC in 2015 from different district like Rukum, Rolpa, Jajarkot, Salyan, Dang, Puthan,, Surkhet, Dailekh, Solukhumbu, Jumla etc. Out of total, 4,895 collectors were from Dolpa district including local villagers and rest of other were from out of district. According to the record of local CFUGs, 7,811 individuals were involved to collect YG in 2011, 9,700 in 2012, 10,277 in 2013 and 11606 in 2014 respectively. From 2011 to 2014 the involvement in collecting *yarsagumba* of individuals have increased but it has decreased in 2015 due to low production of YG, high royalty charge, altitude sickness and earthquake etc.

4.4.2 Peoples Engagement to collect of Yarsagumpa and their Objectives

Figure: 4.16 Distribution of Respondents based on Objective of Participation



Source: Field Survey, 2015

In the study area, near about 87% people were involving for cash earning which is followed by trade/business (10%), entertainment (2%) and study/research (1%) was found. The main purpose of the collectors to be involved in collecting YG was economic gain by picking and selling it. In the collection site from 6 to 65 years old

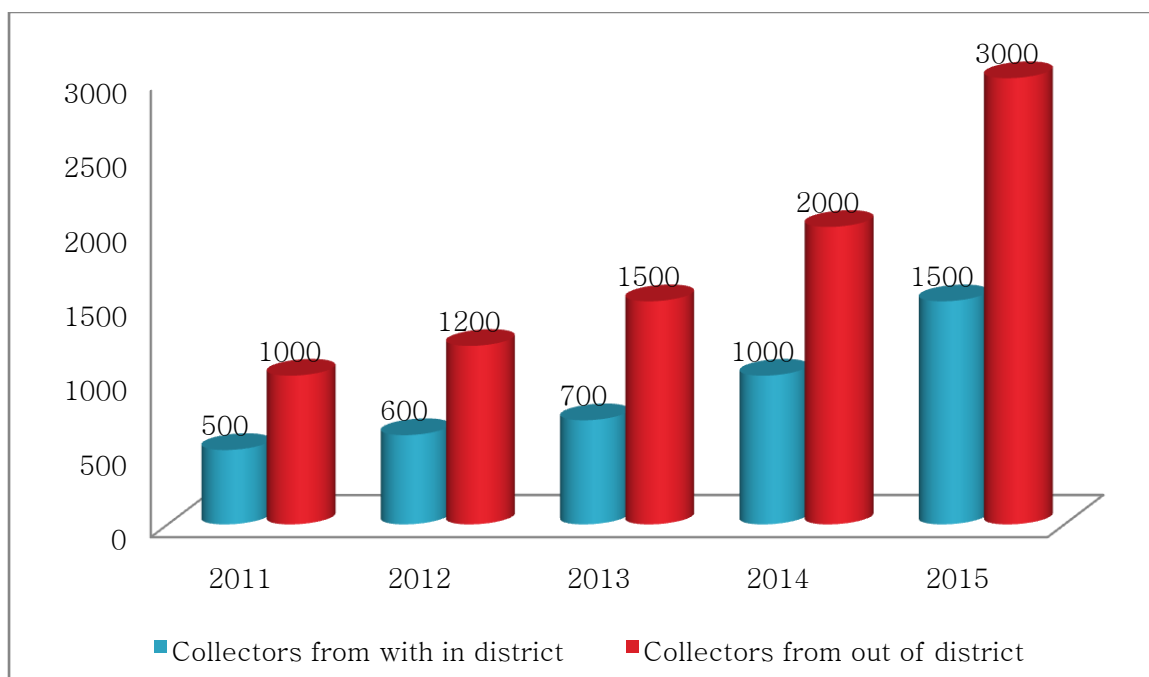
people were engaged with the hope of more collecting YG. Second largest population were involved in trade of YG and social service by providing health care, hotel facility, selling of goods etc. Only a fewer numbers of people had been in YG site to have enjoy, visit and research study.

4.5 Royalty Collection

4.5.1 Trend of Royalty Collection in Raha VDC

As per the local collectors, during the time of insurgency in Nepal, the trade and royalty collection from traders and harvesters was fully under the control of insurgents. They used to collect NRs 500 per individual as “revolution tax” that harvesters had to pay anyhow. At that time, local CFUGs were functionless even though they have authority over resource management. Since 2007 local CFUGs started collecting royalty/entry charge from each collector to conserve the resources remaining under the rules, regulation and supervision of DFO Dolpa.

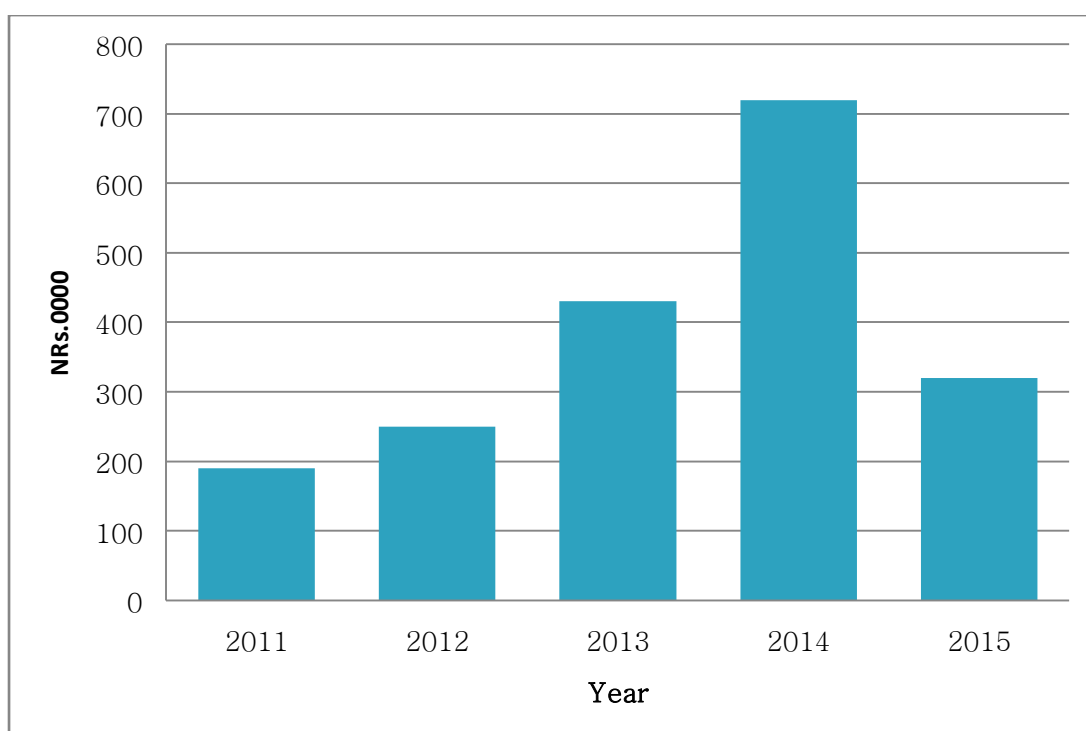
Figure: 4.17 Amount to be Paid as Entrance Fee Per Individual for YG Collection



Source: DCFUGs/CFUGs and Field Survey, 2015

Above figure shows that, entrance fee for local harvesters was NRs. 500 and 1,000 was for non-local harvesters in 2011 and it has gradually increased in the following year. In 2012 local harvesters had paid NRs. 600 and non-local harvesters NRs. 1200 as entrance fee per individual. Similarly, entrance fee was NRs. 700 and NRs. 1500 in 2013, NRs. 1,000 and NRs. 2,000 in 2014 and NRs. 1,500 and NRs. 3,000 in 2015 for both of them per individual respectively. The data also make clear that non-local harvesters have been paid two times more amount than local ones. The entrance fee for both local and outer harvesters is determined by DFO holding meeting with members of LCFUGs.

Figure: 4.18 Total Amounts Collected from Royalty



Source: CCFUGs, 2015

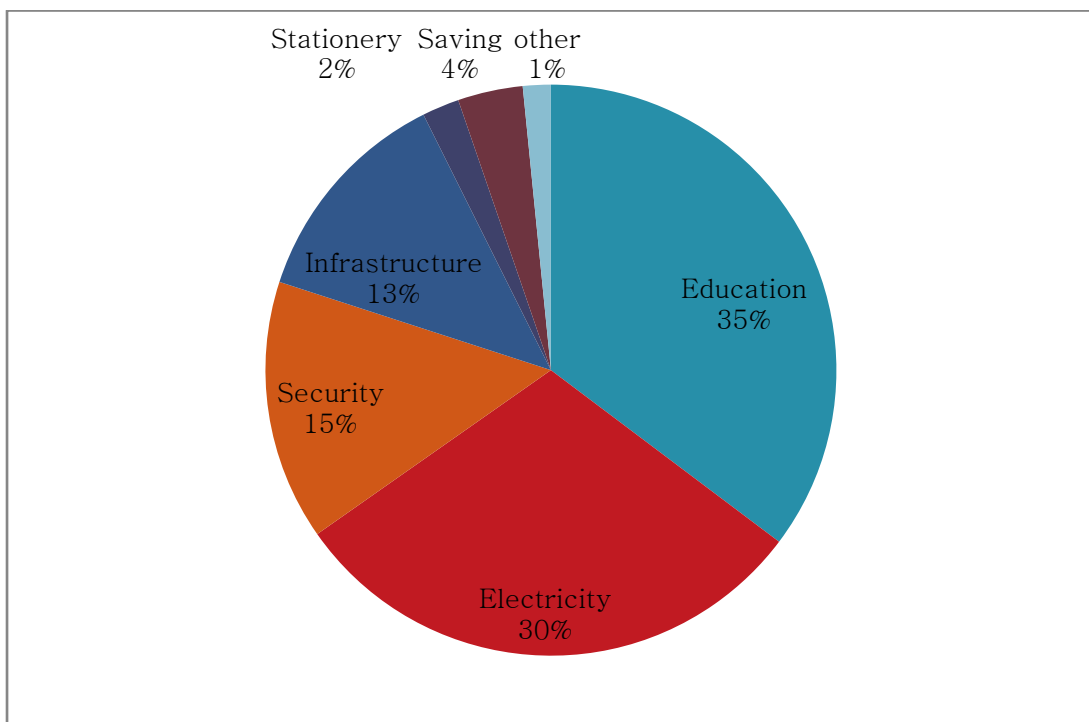
After having permission for collecting royalty from DFO local CFUGs throughout district start to collect royalty from harvesters. In the context of Raha VDC there are two CFUGs are in exist and they have been taking the responsibilities for overall management of the resources at different YG site. They are Deauti Community Forestry Users Group (DCFUGs) Raha 4-9 Dolpa and Chhumakuni Community Forestry Users Group (CCFUGs) Raha 1-3Dolpa. The above data is based on DCFUGs. DCFUGs had collected NRs. 9,00,000 royalty in 2011. Similarly, it had collected NRs. 15,00,000 in 2012, NRs. 18,00,000 in 2013, NRs. 10,00,000 in 2014

and NRs. 22,00,000 in 2015 respectively. The highest amounts of money NRs 72 hundreds of thousands was collected by DCFUGs in 2014 but it has decreased in 2015 due to less involvement in numbers of harvesters, to be disappointed with the production of YG in previous year, geographical complexities and not able to collect royalty from all the harvesters etc. In other side CCFUGs is next one that has collected NRs near about 120,00,00 as a royalty from harvesters in 2015. According to the report of CCFUGs, it collects near around NRs 15-20 lakh every year. It has been contributing its collected royalty in the field of education, infrastructure development and resource management.

4.5.2 Contribution of Collected Royalty in different Activities

In the context of Raha VDC there are two local CFUGs were involved actively in collecting royalty, managing resources and formulating several rules for both collectors and traders. But the following data is based on Deauti Community Forestry Users Group (DCFUGs). According to the record of DCFUGs, it started to collect royalty since 2007 and has been expensing its fund collected from harvesters in different social activities which is shown in the given figure.

Figure: 4.19 Expenses of Royalty in Different Social Activities



Source: DCFUG, 2015

DCFUGs has funded 35% of the total amounts to a Community level School namely Shree Shuvakamana Lower secondary School, Raha Dolpa for teachers' salary and stationery. The expenditure on electricity is 30% that villagers have set up mini-hydropower capacity of 40kw in the village with some financial support from other government and Non-government Organizations (NGOs) as well. More than 207 HHs in four villages namely Raha, Phunhalduwa, Parila, Kagni are getting light facility that has made the school children and housewife easy for reading and cooking foods respectively. The expenditure of DCFUGs on security was (15%) and it is followed by infrastructure development (rural road survey and construction building 13%), saving (4%), stationery (2%) and other (1%). The above data shows that the collected royalty has been mobilized in social development work by DCFUGs members. To conserve and protect *yarsagumba* from illegal collecting and theft, about 25-30 young guys had been sent by CFUGs for one and a half of month in YG site every year. It was good task for conserving the natural resources.

4.6 Economic Impacts in the Livelihood of Rural People

A several research studies done on the basis of socio-economic impact from *yarsagumba* Collection, by researchers and reports of the government and Non-government Organizations have revealed that rural people of the country are being benefited by Collection and selling of *yarsagumba* for last few years. In the contest of Raha VDC, there can be seen some drastic change and impacts of *yarsagumba* in rural economy and their livelihood.

Basically, the economy of the VDC was traditional crop based and animal husbandry as well before YG Collection as commercially. Potato, barley, wheat, maize, buckwheat, millet, *chino* (Chinese millet), bean some are the major crops of the VDC. Potato is the cash crop for the famers. But from the last 6 to 7 years the villagers are decreasing their traditional crops and not interested in rearing up cattle. This was the major traditional occupation of the villagers is decreasing because of *yarsagumba* collection. However, there was a significant change occurred by income from *yarsagumba* collection. In the duration of field research, open ended questions were also asked to other YG dwellers except respondents to get more information about their livelihood. More than 8-9 HHs construct their new house in each and every village in the VDC (there are 4 villages in the VDC namely Raha, Phunhalduwa

,Parila,kagni), every year. The houses are made up of with stone, wood, mud and iron rod having plain mud roof and the cost of each house has remained NRs 4,00,000 to 12,00,000. According to the villagers, before using electricity light in the village they used to dyalo (wooden lamp), and solar system for light but it is now replaced by electricity. The users of modern technology like mobile phone, television, laptop etc has increased rapidly in number. It was found more than 25% out of total population and 80% out of total HHs in the VDC using mobile phones. After Collection and selling of *yarsagumba*, people are found to be business oriented that some of them have kept small fancy and grocery shop in the villages and outside as well. There was a significant change in the field of sanitation that about 95% HHs has made permanent latrines income from YG and about 50% HHs access the sanitation. People now have formulated habit of defecating in toilets and also felt secure because before using toilets they used to defecate in bushes, fields and corner of any place. But now days, the situation has changed and awareness about health from sanitation prevailed among the people.

From the income of *yarsagumba* collecting and trading, about 10% HHs have bought and reared up mules and horses for importing and exporting of goods in the village. Using of mules and horses has made the villagers easier to import goods from out of village and export local products to the nearest market. It has given them more relief and generated employment opportunities as from one hand mules are used as a means of transportation in such a remote areas which is not linked with road, for carrying loads and in another hand young guys are employed to look after mules in condition of getting net salary after agreement between both employee and employer. During the period of YG Collection, especially women are found to be engaged in different field such as hotel, grocery shop, YG trading and fancy shop near the habitat of collectors and traders. Within few days, they were able to make good money by selling goods and providing hotel service to the collectors. Similarly, local farmers were also busy to sell their local product potato and bean to the outer collectors. From one side local farmers have got opportunity to sell their local products and another side they have earned money by selling it.

There was a great change which is reflecting in the field of education, in the past education of girls was not proper and the drop out of rate of girls in compare to boys was too high from schools. But, now the trend is changing day bay day. Along with

the establishment of secondary level school with the active and immense effort of all villagers in the village, the numbers of girls was increasing rapidly. The young boys and girls were going for higher studies to Kathmandu, Pokhara, Nepalgunj etc. Besides these positive changes occurred through YG collection in the livelihood of people, there can be seen negative changes as well. Throughout the Collection season, only old people who can barely take care of themselves with rarely one caretaker remain in the villages. It becomes difficult for single person to reach other works like taking care of cattle, works on the field and also see elderly family members. This has significant effect upon the agricultural pattern in the VDC, which is also the situation of most of villages of Dolpa because almost all of the people who can contribute to agricultural work leave village and get busy in collecting *yarsagumba* . In terms of gender equality, especially status and roles of women was lower than men. Only women were involved in farming whereas men were killing their time by gambling and drinking alcohol in the YG site. There were no effective roles of women such as planning, decision making and mobilizing property which was controlled over by men in almost HHs. And the negative ecological impacts also could be seen in the YG site that the excessive use of fire woods; illegal hunting of wild animals, open defecation, over collection of YG etc. may create the problems and disturb the ecosystem in the future. The positive and negative socio-economic impacts through *yarsagumba* Collection are given in following points:

4.6.1 Positive Impacts

- Yarsagumba has become a major income sources to those mountainous people who involved in collecting and trading yarsagumba.
- Majority of the households in the VDC are able to manage their fundamental needs throughout the year.
- Most of households are now able to send their children for higher studies to major cities like Kathmandu, Pokhara, Nepalgunj, Dang, Surkhet etc.
- Villagers are able to utilize their income by saving, buying land, horses and mules, making house etc.
- The majority of the local people are aware of health care and able to manage the cost of modern treatment by visiting the hospitals in Lukhnau India, Kathmandu, Nepalgunj etc

- Women have utilized the money earned from collecting and trade of yarsagumba in buying gold and ornaments.
- Some of the school and college students became independent in their educational expenses from the income gained from yarsagumba collection.
- Villagers are able to set up secondary level community school to provide education to their offspring and mini-hydropower project which is a good signal of development.
- Almost households in the VDC have made permanent latrines from the income of yarsagumba collection and trade.
- People are able to consume modern communication and entertainment items like mobile phones, television, laptop, computer, CD/DVD/VCR player etc.
- Both local and outer collectors have got an opportunity to exchange their culture, language and tradition.
- Relationship among the YG harvesters have become more strengthen and deeper by joining relation as “*mit and mitini*” (relation like brother and sister) and “*ista*” (relation like friend).
- Some of the villagers have set up small size of fancy and grocery shops in and out of the villages.
- Young boys in the VDC are able to leave for abroad for foreign employment in their own cost by saving money from YG income.
- The yarsagumba collection and trade has significantly contributed to uplift the socio-economic condition of the rural people.

4.6.2 Negative Impacts

- People are not concerned in agricultural activities and farming because yarsagumba has become an easy way of earning money within short periods of time for them.
- People have changed their habits slightly to the use of more expensive and luxurious goods which may be harmful in future.
- Drinking alcohol, gambling and smoking cigarette has become as a fashion among the youths.
- Students are compelled to miss their classes for a month as schools remain vacant throughout the district during the yarsagumbaCollection.

- Drop out of boys compare to girls from schools is increasing because they have built concept that they can make good money from YG Collection in easy way.
- Old people and patients are left in the village alone; they rarely can take care of themselves.
- People are not interested in goat and sheep rearing and also decreasing their local products.
- Sometimes robbery of property and murder takes place in the YG site.
- Due to the unfavourable climatic condition and geographical complexities, collectors have lost their lives.
- Unsustainable Collection of yarsagumba may decline the income of local community in the future.
- Sometimes dispute among the local and outer collectors over grazing right, access to YG resources and entrance fee and some of these turn into violence.
- Excessive use of fire woods may cause natural disaster in future.
- Some of people were also involved in illegal hunting of wildlife that may disturb the ecosystem.
- Spending money randomly in unnecessary field by the collectors and traders especially men in YG site is the evil social custom.

4.7 Practices of YG Collection

4.7.1 Collecting Practices of YG

As the collection season of *yarsagumba* comes in hand, people start their journey to highlands of mountainous district having full of hope of earning money from *yarsagumba* Collection. The peak Collection season in Dolpa is from last week of May to first week of July. *Yarsagumba* collecting in Raha VDC was started in 26th May and ended in 5th July in 2015.

Each and every year, the numbers of people is increasing for Collection *yarsagumba* in the mountainous districts like Dolpa, Darchula, Manag, Humla, Rukum etc. More than 9,000 people were involved in collecting *yarsagumba* at YG site such as Gyalbara, Taktara, Chhumakuni, Mate, Chhaurirumana, Sumse, Patauti, Bukadaha, Parbar

amana in Raha VDC in 2015. People from nearest VDC and district had been there before opening YG Collection formally. It was really difficult to those harvesters, who are from out of VDC and district to get YG site carrying food, clothes, medicine and other necessary items on their back for a week. Most of them had come there with their children. They had set up small tent for shelter but local harvesters have temporary houses made up of with stone, mud and wood in different YG sites. People get up early morning and leave for picking *yarsagumba* with their kin and kith and friends carrying The collectors spend whole day in search of *yarsagumba* crawling over the sparsely vegetation. It is very difficult to find out the piece of *yarsagumba* because stale and junk food. The visible part of it is very small often no longer than 3 cm. It can be got only from close view. It is not easy for stranger to search it than experienced one. Collectors use hoe, knife, sharp stick etc to excavate piece of *yarsagumba* carefully. The daily harvest quantity of *yarsagumba* depends upon the individual that children above 6 years old can get high than adult and old people. The best collectors at high pasture meadow might get half a dozen to 20 pieces in the course of the day. After collecting *yarsagumba*, in the evening collectors get back to their shelter having eaten nothing except a few dry foods. They clean away the clinging bits of soil of pieces of *yarsagumba* with a toothbrush carefully. After brushing, they keep it in dry air passed clothe bag to protect from to be rotten as of them rotten and broken pieces of *yarsagumba* does not have high price. To make dry it, people place on mattress or bedcover in hot sunlight and it takes 6-10 days to make perfect.

Collectors would feel too tired while returning to their tents because they had to search a small piece of *yarsagumba* by crawling on the grassland entire day. They take rest only in the time of breakfast and visiting relatives. According to one of the collectors, it looks easy to search and pick *yarsagumba* but is difficult in reality that they had to cross the steep rocks and slippery hills, walk across the snow and lei on wet land. Some of collectors lose their balance while crossing the rocks and hills and may get injure. Each and every YG site, collectors seemed as heard of sheep grazing on the meadow. People including age from 6 to 65years old were engaged giving their full attention in searching *yarsagumba*. Collectors while getting back to their shelter, there could be seen smile on face to those collectors who had harvested enough one and also could be seen despair on face to those who were unable to harvest enough.

they paid full effort while searching *yarsagumba*. Those collectors who couldn't collect much piece of *yarsagumba* used to curse themselves saying "I have no luck". According to the local and outsiders, local CFUGs has been organising cultural programme and sports at Bagedada, habitat of *yarsagumba* harvesters every year. It has been conducting such kind of programme to entertain the harvesters and utilize the leisure time. There were certain rules and regulation prepared by DCFUG for the collectors that there was not allowed to pick *yarsagumba* to those days when it declares stop for picking *yarsagumba*. As one of them, the main reason to stop on picking *yarsagumba* for 4 to 5 days was they will harvest more within a day than walking ups and down taking few piece of *yarsagumba* in pocket every day. They feel relief in such time from walking and searching of *yarsagumba*. In one side young guys were involved in sports like volleyball and football and in another side adult and old people mostly women were gathered around cultural programme like "*dohorigeetpratiyogita*" (folk song competition) and "*MayurNaach*" (Peacock dance) performed by Magar, an indigenous people from Rukum. In such a way, collectors were benefited from both side; one is they were making good income from *yarsagumba* Collection and another is they were getting full enjoy.

The interesting facts of collectors while collecting YG was most of them used to greeting piece of *yarsagumba* either bending their head or taking near to their forehead to which they get at first and believe that finding quantity of *yarsagumba* depends on their luck. Formerly, people used bag to pick *yarsagumba* and keep *indoko* (local basket made up of bamboo) for cleaning with water it is because at that time the production of *yarsagumba* was high in quantity but the price and value was low. According to them, they used cook it as their curry for lunch and dinner but now it has become a story to the coming generation that the production of *yarsagumba* is decreasing rapidly every year though the price and value is rising day after day.

4.7.2 Problems

Throughout the collection period, there were lot of challenges and problems which had faced by collectors, children and other passive population in collection areas. Some of them have been explained below:

4.7.2.1 Geographical and Environment Complexities

Dolpa, the largest district in area is known as the most remote in the country. It is not linked with road and only the air service is available in the name of transportation. Huge and steep rocks, upward hills and snow covered land are the geographical

characteristics of the district. Due to the geographical complexities, YG collectors have to face several kinds of problems while heading to highlands to pick *yarsagumba* every year. Normally, it takes around a week to reach at YG site on foot to those collectors who are from out of district but local harvesters can get there within couple of days. It was very difficult for the collectors that they had reached there by carrying food, clothes and infants as well on their back riding hills and crossing rock based path. According to them, some of them get injure and might lose their lives falling from terrible and narrow trail. Chillness from snow also affects lives of them early in the morning and in entire night. Collectors from out of district are found living at the range of 3,600 to 4,000 m. above from the sea level which is dangerous zone human habitat. In 2010, 16 *yarsagumba* harvesters were buried alive by snowstorm at Kaingaun VDC in Dolpa while they slept at a camp. There was lack of fuel to lit fire for cooking food. Only few HHs were using horses, mules and donkeys for supplying ration, wood for fuel and their necessities goods by paying charge of these animals.

4.7.2.2 Health and Sanitation

“Health is Wealth”, a famous proverb, makes clear that to earn money one’s health should be fit and fine with physically, mentally and socially. It is the most important thing to each and every human being to bring positive result in any field. So, to know the problems related health of collectors during the *yarsagumba* collection period, interview was taken with collectors and health person. There could be seen lot of problems related health at YG site facing by the people. There was lack of diet and nutrients on food which collectors used as breakfast in the morning. They were eating dry bread and stale curry, “*dhesu*” (local food prepared with buckwheat) and junk food like biscuit, noodles, cold drinks etc which was not fresh and have any nutrients. Due to the unfavourable climatic condition like heavy snow fall, raining with hailstorm, high altitude the coldest environment had really affected the lives of people. People, mostly women, children, old and disable people were affected from different kinds of disease like head ache, cough and fever, diarrhoea, vomiting, chillness etc. There was lack of potable drinking water and latrines around the habitat of the collectors. Waste materials might be seen prevailing here and there. The practice of hand washing with soap before and after taking meal was poor among the

collectors that had affected them directly or indirectly. The main reason of their health problems was stale and junk food which they used as breakfast and lunch. People hardly touch and bath because of extreme cold of water and environment.

4.7.2.3 Transportation and Communication

There is no any facility of transportation and communication in the study area. It is very difficult to the harvesters walking on foot every day there was no other alternative of transportation. But mules, donkeys, horses had been used to import and export goods that has given relief to them somehow. Collectors were deprived from network service with their kin and kith. Hello GSM, private network has been providing its network service but people did not get any chance to communicate with their relatives because of its poor network capacity and time limitation.

4.7.2.4 Pollution

Any kinds of pollution may harm the ecosystem in the earth. No doubt, the main creator of pollution is human being. In the study area, collectors were promoting the land and air pollution by throwing waste materials like plastic bag and bottle, can bottle, glasses etc after using them. It makes clear that there was no any attempt done by collectors, CFUGs members and other to manage waste materials in sage place. People did not make any pit to dispose garbage. And excessive consume of woods for fuel had promoted the air pollution there. Huge number of people living in a small place had created the noisy environment.

4.7.2.5 Weather

Changing of weather every hour makes the normal life difficult of the collectors at YG site. Sometimes there is heavy snowfall occurs suddenly and hit collectors and they face problem in preparing food and accommodation after the snowfall destroying their tents. Especially infants, children, disable and elder people suffer from the bad weather. Without proper clothes and fresh food, they have to spend entire night. Sometimes it creates fatal incident uttered by a local farmer in a lamenting way. Most of local harvesters have become witnessed themselves of losing lives of their cattle due to hailstorm, heavy snowfall, strong wind blowing and continuous raining. He further added that it also has destroyed the local crops in several times.

4.7.2.6 Security

As I asked the questions to the harvesters about the security, most of them replied that they were feeling not being secured during the period of YG collection. Especially YG traders and affluent had fear of robbery of YG and money. According to them, the incident of robbery takes place every year though the police providing security. There are different habitats of collectors. So it becomes challenge and difficulty to provide full security to all every time due to the lack of manpower of police. Fight between young guys, dispute between local and outsider harvesters over grazing right and entrance fee, robbery makes frightening an innocent people every year.

4.7.2.7 Conflict

Like previous years, the people from other area also come to collect YG in this area. However, the local people do not allow them to come to collect YG why it has created the situation of conflict in YG collection.

4.7.2.8 Accident

It is very risky and difficult to collect YG. Some time they have to cross very difficult snowy mountains, which some time takes the life of people. Because of terrible and narrow foot trail, some persons lost their lives passing through the difficult trail.

4.7.2.9 Low Price

As people are collecting YG, which is not mature, and lack quality, they do necessary to protect and pressure the areas where YG are abandoning. The government must make rule and regulation regarding YG collection also, so that the YG grow continually in sufficient amount not get reasonable price As the people, do not get enough information about the market prices, it lacks the bargaining power of the YG collectors. Collectors get only 24% price of international price.

4.8 Measures

Following advices have been obtained to solve the problems that arise during YG collection, from household survey, information discussion, group discussion and various interaction programs with the various people.

1. Construction of road or accessible route to the region where YG found.
2. Access for all the consumers to that area. Development of technology regards professional cultivation of YG.
3. Development of proper technique of collecting YG.
4. Increasing public awareness regarding deforestation, fire, poaching and pollution.
5. Facilities of health camp during collection.
6. Refining facilities inside our own country.
7. Provision of license for YG trade.
8. Mechanism of proper co-ordination among YG collectors, traders and related agencies.
9. Direct contact of YG collectors with dealers.
10. Encouraging local investment in the YG trade.
11. Proper marketing system.
12. Regular information regarding prevailing market price.
13. Apart from these, collectors should be properly trained in collection, cleaning, drying and storing techniques by the skilled trainers.

CHAPTER: V

SUMMARY, CONCLUSION AND RECOMMENDATION

5.1 Summary

This research was carried out from Raha VDC of Dolpa, one of the remote districts, spending near about a couple of months at YG sites. The purpose of this research was to understand to access the impact YG in the livelihood of rural local people, existing practices and problems of during the period of to find out its contribution in economic and development field.

The fieldwork for this study was undertaken from May-July. In all, I interviewed individuals, including collectors, students, CFUGs member and YG traders at different YG sites in Raha VDC. The data for this study was collected using quantities tools such as semi-structured interviews, focus group discussion and observations and secondary data were collected from published materials and reports related to this field of various individuals and organisations.

The major occupation of the local people was agriculture where about 90% of the households are dependent on agriculture for their livelihood but their dependence on agriculture for sustenance and livelihood is influenced by numerous factors such as alternative income sources, land holding, education, traditional beliefs and practices, uncertain weather conditions etc. Almost cent percent households of the VDC were involved in collecting and trading of *yarsagumba*. Local collectors and outsider also have been getting huge financial support from engaging in it every year that has made them easy to fulfil their essential needs.

Non-Timber Forest Products (NTFPs) and Medicine and Aromatic Plants (MAPs) are the important sources of income generation to the mountainous people in Nepal. *Yarsagumba*, one of them, that has become integral part of income source to purchase essential commodities and to invest in community development for the local people. Because of the high market price, the income from *Yarsagumba* Collection has improved food security, provided safety and generated employment opportunity for the people in this region. The lucrative income from *Yarsagumba* Collection is driving force to increase the number of harvesters and the intensity of the harvest in

recent years. People are benefited financially by collecting and trading of these MAPs. Unfortunately, over and unmanaged exploitation of these MAPs has now posed a potential problem in the sustainable management of these natural resources. People in the study VDC did not have any plan and policy to preserve these valuable plants for their long term income source. National records show that the export of medicinal plants from Nepal stated to decline indication a potential threat to the trade of these plants. More attention, therefore, needs to be paid to assessing the true availability and cultivation of these plants, in this context, community forestry could be one of the potentially viable and effective programs to cultivate and manage these valuable plants.

5.2 Conclusion

This study has tried to provide a detailed description of economic impacts through *yarsagumba* collection of Raha VDC in Dolpa district. The study shows that the *yarsagumba* has played the key roles to ensure and enhance the cash income of local people and explained its market chain with changing price, practices and problems while collecting *yarsagumba* and for generating livelihood opportunities.

The collection of *yarsagumba*, an expensive medicinal herb, started on May 26th and ended on July 5th at Raha VDC in 2015. More than 8,000 people from within district and out of district like Rukum, Salyan, Jajarkot, Rolpa etc were involved in collecting *yarsagumba*. They had collected it from different YG sites like Gyalbara, Taktara, Chhumakuni, Mate, Chhaurirumana, Sumse, Patauti, Bukadaha, Parbaramana which are famous for YG production in the district. The average collection was 3 pieces per individual per day and 150 pieces per annum in 2015. The average living days of individual was 31 days. The price of *yarsagumba* was decreased by 50% than precious year. The rate of a piece of *yarsagumba* was NRs 550 and NRs 800,000 per kg in 2015 but it was NRs 1,100 per piece and NRs 1,500,000 per kg respectively in 2014. The production in quantity of *yarsagumba* is decreasing every year but the price of it is increasing rapidly except 2015.

After lifting ban on both on collection and trade legally by the Government of Nepal in 2001, Himalayan dwellers have been involving picking and trade of *yarsagumba* each and every year. At the beginning, the royalty rate of *yarsagumba* was NRs

20,000 per kg but at present it has been reduced to NRs. 10,000 per kg. In RahaVDC, traders collected the *yarsagumba* from outsider harvesters in YG sites but the local collectors sold it to them after end of Collection. Some traders leave for Tibet to sell the product which is illegal and some of them take it via Kathmandu to sell in different foreign countries after getting legal permission from GoN.

The average income of an individual and HH was about NRs 22,000 and above NRs. 71,000 respectively in 2015. DCFUG had collected NRs. 3,200,000 as royalty from the harvesters in 2015 which was decreased with more than 50% compared to previous year. Income from royalty collection, there is secondary level community school is running where more than 250 students are studying. They have also set up mini-hydro power capacity of 30 kw in the village and more than 250 HHs are getting the facility of electric light. Boys and girls are now able to afford to pay fee for their higher studies from the income of *yarsagumba* collection. Most of them study in boarding schools and colleges in Kathmandu, Nepalgunj, Pokhara, Surkhet etc. The most positive aspect from selling *yarsagumba* was that some of the villagers have invested their income on local business like fancy and grocery shop, animal husbandry and trading other Medicinal and Aromatic Plants. Young guys are heading to abroad for foreign employment saving the income from *yarsagumba*.

When the people started to collect *yarsagumba* and get lucrative income since they are not concerned in their traditional occupation. During the period of *yarsagumba* collection, each and every HHs had kept agricultural activities in secondary priority. The collection of *yarsagumba* has also brought the negative effect on education that schools were closed and students and teachers as well rushed themselves in the highlands to harvest *yarsagumba* for a month. People have developed their habits of using luxurious goods and involving in gambling, drinking which is the social evil that disorder the social norm and values. Local HHs are not interested in animal husbandry which was their traditional income source.

Overgrazing and exploitation of *yarsagumba* by the harvesters may create the serious problems in the future. Because of it, the quantity of *yarsagumba* is declining every year. To ensure the income of rural communities and their coming generations, it is necessary to develop long term policy on Collection YG and its sustainable management.

5.4 Recommendations

On the basis of this study, people, who involved in *yarsagumba* collecting and trading, are getting good cash income within a short span of time every year. So, the *yarsagumba* has become the staple source of cash income for them and assisted to fulfil their needs. But there is a serious question has been raised about over collecting and trading of *yarsagumba* that may decline the income in one hands and disturb the bio-diversity in the future. So, to make sustain of income from *yarsagumba* Collection and conserve this valuable medicinal herb, over collection and trading of *yarsagumba* should be minimized through the local level issuing reasonable planning.

- It is necessary to develop clear cut policy and its implementation for management and cultivation of the most useful and valuable NTFPs and MAPs.
- Local CFUGs along with DFO have to prepare and implement certain rules and regulations related natural resource conservation and protection;
- Strict monitoring and regulation mechanism by CFUGs members and staff of DFO should be enforced;
- To promote the YG market, proactive initiative role should be played by the government;
- Government have to set up business centre in the country to provide the maximum benefit to the harvesters by buying their product in an international price;
- Forest rules and regulations should be strict to control illegal exporting of *yarsagumba* in Tibet (China);
- Local people, concerned organizations and GoN must pay keen attention on utilization, development and management of *yarsagumba*;
- Waste materials and other harmful things should be managed and disposed in YG collection sites by the local CFUGs;
- Horses, mules, sheep, donkeys, goats and other domestic animals should not be allowed for grazing in YG sites
- Sufficient research is required on YG's cultivation possibility and development of pre-processing and processing technologies.
- Maximum trading of *Yarsagumba* is in raw form, their is need of value addition to give maximum income economy.

- Apart from these, collectors should be properly trained in collection, cleaning, drying and storing techniques by the skilled trainers.
- Strong monitoring of YG Collection is strongly recommended at local level to ensure sustainable Collection.
- Proactive initiative role should be played by the government for market promotion, e.g., cooperative, buy back.
- The present royalty rate of Yarsagumba needs further review by the government in the global context of its market.
- Plantation should be established in the forest for collection season.
- Over grazing should be checked to protect the Yarsagumba.
- Community ownership and mobilization should be appraised for effective management of pastures.
- There should be awareness rising program to effect of hunting, firing, improper Collection of plant.

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ANNEXES

ANNEX: I

A COLLECTION OF YARSAGUMBA AND ITS IMPACTS ON SUSTAINABLE LIVELIHOOD OF RURAL PEOPLE OF RAHA VDC, DOLPA DISTRICT, NEPAL

A. General Information:

1. Name of Respondent.....
2. VDC..... Ward No..... Village
3. CasteSexAge
4. Ranking of occupation: a. Farmer b. Social worker c. Politician
d. Business e. Service f. Other.....
5. Family size:
6. Livestock: a. Goat/sheep.....b. Cow/Oxen.....c. Buffalo.....
d. Pig/Boar..... e. Other..... f. Total.... ..
7. Educational status:
8. Land Holding: TotalRopani (Irrigated.....&
Non irrigated.....)
9. Food sufficiency: a. Surplus b. Year around
c. 6-9 months d. 3-6 months
e. below 3 months f. No land

ANNEX: II

Participation of CFUG in Collection and Uses:

10. Why do your family members goes to collect Yarsagumba?
Household use/Economic gain/ Study / Research / Enjoyment / Others
11. When did you come to know about the collection and uses Yarsagumba?...Year
12. When did you start to participate in collection of Yarsagumba?Year.
13. How did you come to know about this product.
Forest technicians / Traders / Neighboring users / Radio or Documentary / Others
14. When did You start to participate in Yarsagumba collection? How much did you collected annually and what is the status of gain?
15. Where do you go to collect Yarsagumba?
16. How far you go to collect the YG from your camp/station?.....km.
17. Have you used the Yarsagumba in your family? a. Yes b. No
18. Do you idea of the local use of Yarsagumba? a. Yes b. No
19. Do you know the present value of YG in the market? Yes/No
20. Collection amount and income.
21. What are the major source of your family:(2014 July -2015 June)
Agriculture / Livestock / Forest product / Gov. service / Daily labor / Business
22. What are major expenses of your family: (2014 July -2015 June)
Health / Education /Cloths / Foods / Travel / Agriculture / Livestock / Festivals
23. In which activity, did you spend the income gain from YG last year?
24. What is the impact of YG in your community? pos. /neg.
25. In your family generally, who take decision in use of the income.
26. Do you feel any changes in your socio-economic status from the income gain from YG? a. pos. b. Neg. c. As usual
In which sector?
27. What is the percentage of income gain from YG in family income?%
28. Have you face any life and economic losses during the collection of YG ?
Yes / No
29. Is YG collection suitable in the economic point of view? Y / N
30. What is the major problem during the collection of Yarsagumba?
31. Any suggestion if you have.

Interviewer name:

Date:.....

ANNEX: III

Photos

1. Life cycle of Yarsagumba



2. Yarsagumba Opening day on Gyalbara pasture area



3. Habitat of Yarsagumba Collectors

