

**YARSAGUMBA COLLECTION AND ITS
CONTRIBUTION ON INCOME AND EXPENDITURE
(A CASE OF DOLPA DISTRICT)**

A Thesis

Submitted to

The Central Department of Economics

Faculty of Humanities and Social Sciences

Tribhuvan University, Kirtipur, Kathmandu, Nepal

In the Partial Fulfillment of Requirement for the

MASTER DEGREE

in

ECONOMICS

Submitted by

BIDHYAMAN MAHATARA

Roll No.: 01/2071/072

T.U. Registration No.: 6-3-28-75-2014

Central Department of Economics

Tribhuvan University, Kirtipur Kathmandu, Nepal

February, 2018

LETTER OF RECOMMENDATION

I hereby approve that, this thesis entitled **“Yarsagumba Collection and Its Contribution on Income and Expenditure -A Case of Dolpa District”** is an original research work done by Mr. Bidhyaman Mahatara, a student of MA Economics, Tribhuvan University, Kathmandu, Nepal under my guidance and supervision. I, therefore, strongly recommend this thesis for the final examinations by the Research Committee, Faculty of Humanities and Social Sciences, Tribhuvan University in the fulfilment of the requirements for the Master of Arts in Economics.

.....

Prof. Ram Prasad Gyanwaly, PhD.
Thesis Supervisor,
Central Department of Economics
Tribhuvan University
Kathmandu, Nepal.

Date: 27/02/2018

APPROVAL SHEET

We certify that this thesis entitled “**Yarsagumba Collection and Its Contribution on Income and Expenditure -A Case of Dolpa District**” submitted by Mr. Bidhyaman Mahatara to Central Department of Economics, Faculties of Humanities and Social Sciences, Tribhuvan University in partial fulfilment of the requirements for the Degree of Master of Arts in Economics has been found satisfactory in scope and quality. Therefore, we hereby accept this thesis as a part of said degree.

Thesis Committee

.....

Prof. Kushum Shakya, PhD.
Head of Department,
Central Department of Economics

.....

Prof. Om Sharma, PhD.
External Examiner

.....

Prof. Ram Prasad Gyanwaly, PhD.
Supervisor
Date: 27/02/2018

ACKNOWLEDGEMENT

This Thesis entitled **“Yarsagumba Collection and Its Contribution on Income and Expenditure -A Case of Dolpa District”** is prepared for the partial fulfilment of the requirements for the degree of Master of Arts in Economics.

I would express my deep gratitude to the Central Department of Economics, Faculty of Humanities and Social Sciences, Tribhuvan University for providing me an opportunity to conduct this research.

I would like to express my profound gratitude to Prof. Dr. Ram Prasad Gyanwaly, supervisor and the former head of the department for successfully guiding me through various stages of this work. I am highly indebted to him for his guidance, encouragement, beneficial suggestions and constructive comments.

I would like to thank extend my profound gratitude to Professor Dr. Kushum Shakya, head of the department for her entire support and creative comments during my research. I extend my sincere thanks to Prof. Om Sharma, external examiner for giving his valuable comments and suggestions. I am very thankful to Prof. Dr. Sohan Kumar Karn and Mr. Tara Prasad Bhusal for their inspiration and valuable support to complete this thesis.

I am deeply indebted to entire family of Dr. Harka Gurung-New ERA Fellowship for providing me financial and technical support to complete this thesis. I am very thankful to Dr. Bal Gopal Baidya, Chairman and Senior Researcher of New ERA for his constant encouragement, creative comments and suggestion to complete this thesis. I very grateful and thankful to Mr. Jagat Basnet, Executive Director of New-ERA for his valuable comments and suggestions. I am also thankful to Ms. Sunita Gurung, focal person, Dr. Harka Gurung-New ERA Fellowship Program.

I extend my sincere gratitude to Dr. Jay Kant Raut, Senior Scientist, Nepal Academy of Science and Technology (NAST). Similarly, I extend my sincere thanks to Dr. Chandra Prasad Pokhrel, Teaching Assistant, Central Department of Botany (TU) for

his valuable suggestion and giving appropriate direction toward good research. I extend my sincere thanks to entire family of Shey Phoksundo National Park, Dolpa and the District Forest Office (DFO), Dolpa. I would also like to extend my thanks to those authors, publishers, researchers and all known and unknown friends for supporting me with ideas and guidance especially in the reference. My special gratitude goes to my friend Mr. Prakash Chandra Subedi who constantly helped me to complete the analysis part of this thesis.

My heartfelt gratitude goes to the entire population of Jagadulla Gaunpalika and Tripura Sundari Nagarpalika, who kindly helped me to conduct household surveys and provided valuable information to complete my thesis work. I am very much obliged to all local and district level traders who helped me to provide valuable information. I am also thankful to all the ward secretaries of Jagadulla Gaunpalika and Tripura Sundari Nagarpalika. I truly acknowledge their contributions.

Finally, I thank my family members for their constant support and encouragement throughout my research.

Bidhyaman Mahatara

Date: 27/02/2018

ABSTRACT

Yarsagumba (*Ophiocordyceps sinensis*) is a rare, unique and famous medicinal plant found in Nepal which is known by different names like Himalayan Gold or Green Gold. The study focuses on assessing present status of Yarsagumba collection, economic contribution on rural households, revenue to the government, trade chain and sustainable harvesting of Yarsagumba.

The study was conducted in Jagadulla Rural Municipality and Tripura Sundari Municipality of Dolpa district. The data were collected using semi-structured questionnaires administered to 292 harvesters, key informant interview with 10 local traders, 5 district level traders, district level journalists and other stakeholders.

The results show that Yarsagumba collection has provided almost 74 percent to the total cash income. Harvesting the caterpillar fungus can net a cash income of around Rs. 150 thousand to a household on an average, which is higher than the average per capita income of Nepalese. Most of the people use Yarsagumba income for household consumption, debt payment and very little has been invested in starting small business enterprise.

The positive impacts of Yarsagumba collection are major source of cash income, revenue to the government, contribution to health, education and house construction. Some negative impacts are, neglecting agriculture activities in the study area due to easy cash, schools are closed, increase in social crimes, etc. The analysis of harvesters' perceptions of resource abundance and sustainability shows that virtually all harvesters (90%) believe the availability of the caterpillar fungus in the pastures to be declining, and 80 percent consider current harvesting practices to be unsustainable. There is a need for long-term monitoring and management plans for sustainable harvest of Yarsagumba. The harvest season, for instance, should be shortened to allow fungi to mature and spread their spores. A rotational system for the harvest should also be implemented, so that the meadow has the chance to recover from human impact.

Keywords: *Yarsagumba, collection, revenue, economic contribution, trade, trade chain, conservation.*

TABLE OF CONTENTS

	Page No.
LETTER OF RECOMMENDATION	i
APPROVAL LETTER	ii
ACKNOWLEDGEMENTS	iii
ABSTRACT	v
TABLE OF CONTENTS	vi
LIST OF TABLES	ix
LIST OF FIGURES	x
ABBREVIATIONS	xi
CHAPTER I: INTRODUCTION	1-8
1.1. Background of the Study	1
1.2. Statement of the Problem	5
1.3. Objectives of the Study	6
1.4. Significance of the Study	7
1.5. Limitations of the Study	8
1.6. Organization of the Study	8
CHAPTER II: REVIEW OF LITERATURE	9-26
2.1. Theoretical Review of Literature	9
2.1.1. Introduction of Yarsagumba	9
2.1.2. History of Yarsagumba	10
2.1.3. Name in Other Languages	11
2.1.4. Status of Yarsagumba in International Context	11
2.1.5. Utilization of Yarsagumba	14
2.1.5.1. Utilization of Yarsagumba in International Context	14
2.1.5.2. Utilization of Yarsagumba in Dolpa District	15
2.1.6. Yarsagumba Collection in Dolpa district	16
2.1.6.1. Distribution and Ecology of Yarsagumba in Dolpa	17
2.1.6.2. Harvesting of Yarsagumba from Dolpa	18
2.1.6.3. Harvesting Methods	19

2.1.6.4. Consumption of Yarsagumba in Dolpa District	19
2.1.7. Yarsagumba Trade in Nepal	19
2.1.8. Policy Background	21
2.1.9. Sustainability	22
2.2. Empirical Literature Review	24
CHAPTER III: RESEARCH METHODOLOGY	27-32
3.1. Research Design	27
3.2. Study Area	27
3.3. Sample Size and Sampling Procedure	28
3.4. Nature and Sources of Data Collection	30
3.4.1. Secondary Data Collection	30
3.4.2. Primary Data Collection	30
3.4.2.1. Household Surveys	31
3.4.2.2. Interview with Key Informants	31
3.4.2.3. Focused Group Discussion	31
3.4.2.4. Close Observation	32
3.5. Data Edit, Analysis and Presentation	32
CHAPTER IV: PRESENTATION AND ANALYSIS OF DATA	33-64
4.1. General Background Information of the Respondents	33
4.1.1. Gender of Respondents	34
4.1.2. Age of the Respondents	35
4.1.3. Major Occupation of the Respondents	36
4.1.4. Caste/Ethnicity of Respondents	37
4.1.5. Education Level of Respondents	38
4.1.6. Food Sufficiency Level of the Respondents	39
4.1.7. Coping Mechanism and Adaptive Strategies	40
4.2. Present Status of Yarsagumba Collection	41
4.2.1. Number of Years Involvement in Yarsagumba Collection	42
4.2.2. Source of Financing Yarsagumba Collection	42
4.2.3. Expenditure Incurred on Yarsagumba Collection	43

4.2.4. Activities Foregone Due to Yarsagumba Collection	44
4.2.5. Problems Faced During Yarsagumba Collection	45
4.3. Contribution of Yarsagumba Income	46
4.3.1. Share of Yarsagumba Income in Total Cash Income of Households	47
4.3.2. Expenditure Pattern of Yarsagumba Income	48
4.4. Trade Chain and Price of Yarsagumba	50
4.4.1. Yarsagumba Trade in Dolpa District	50
4.4.2. Trend of Yarsagumba Collection in Dolpa District	50
4.4.3. Price Trend of Yarsagumba Sold in Dolpa District	52
4.4.4. Market Price Trend in Dolpa District	53
4.4.5. Quality Grading	54
4.4.6. Trend of Yarsagumba Revenue Collection in Dolpa District	54
4.4.7. Share of Revenue from Dolpa to the Total Revenue of Nepal	56
4.4.8. A General Trade Chain of Yarsagumba in Dolpa District	57
4.5. Threat of Yarsagumba Collection to the Biodiversity of Its Pastures	61
4.6. Positive Impact of Yarsagumba Income	61
4.7. Negative Impact of Yarsagumba Income	63
4.8. Conservation Perspectives of the Respondents	64
CHAPTER V: FINDINGS, CONCLUSION AND RECOMMENDATIONS	65-69
5.1 Summary of Findings	65
5.2 Conclusions	68
5.3 Recommendations	69
APPENDICES	70-81
REFERENCES	82-85

LIST OF TABLES

Table No.	Title	Page No.
2.1	Name Given to Yarsagumba in Different Languages	11
2.2	Legal Scenario for Yarsagumba Management	22
2.3	Average Income per Household by Source and Village	26
3.1	Households and Sample Selection from Each Wards	29
4.1	Characteristics of Respondents	34
4.2	Expenditure Incurred on Yarsagumba Collection	44
4.3	Share of Different Heads of Income in Total Cash Income of HHs	47
4.4	Expenditure Pattern of Yarsagumba Income	49
4.5	Price of Yarsagumba on The Basis of Different Grades	52
4.6	Quality Grading Criteria of Yarsagumba	54
4.7	Yearly Trend of Yarsagumba Revenue Collection in Dolpa District	55
4.8	Value Addition across Channel I	60
4.9	Value Addition across Channel II/III	60

LIST OF FIGURES

Figure No.	Title	Page No.
4.1	Gender Distribution of Respondents	35
4.2	Age of the Respondents	36
4.3	Major Occupation of Respondents	37
4.4	Caste/Ethnicity of Respondents	38
4.5	Education Level of Respondents	39
4.6	Food Sufficiency level of the Respondents	40
4.7	Coping Mechanisms and Adaptive Strategies	41
4.8	Number of Years Involvement in Yarsagumba Collection	42
4.9	Source of Finance Yarsagumba Collection	43
4.10	Activities Foregone Due to Yarsagumba Collection	45
4.11	Problems Faced During Yarsagumba Collection	46
4.12	Share of Different Heads of Income in Total Cash Income of HHs	48
4.13	Yearly Trend of Yarsagumba Collection in Dolpa District	51
4.14	Price Trend of Yarsagumba	53
4.15	Yearly Trend of Yarsagumba Revenue Collection in Dolpa District	56
4.16	Share of Revenue from Dolpa to the Total Revenue of Nepal	57
4.17	A General Market Chain of Yarsagumba in Dolpa District	58

ABBREVIATIONS/ACRONYMS

ANSAB	:	Asia Network for Sustainable Agriculture and Bio-resources
CBS	:	Central Bureau of Statistics
CD	:	Compact Disc
CFUG	:	Community Forest User Groups
CGI	:	Corrugated Galvanized Iron
DCXC	:	DongChongXiaCao
DCC	:	District Coordination Committee
DDC	:	District Development Committee
DFO	:	District Forest Office
DNPWC	:	Department of National Park and Wildlife Conservation
DoF	:	Department of Forest
DVD	:	Digital Video Disc
FES	:	Friedrich Ebert Stiftung
FGD	:	Focused Group Discussion
GDP	:	Gross Domestic Product
GoN	:	Government of Nepal
HDI	:	Human Development Index
HHs	:	Households
HKH	:	Hindu Kush Himalaya
HPI	:	Human Poverty Index
IUCN	:	International Union of Conservation of Nature
JABAN	:	Jadibuti Association of Nepal

KII	:	Key Informant Interview
KIRDARC	:	Karnali Integrated Rural Development and Research Centre
MAP	:	Medicinal Aromatic Plants
MoF	:	Ministry of Finance
MoFALD	:	Ministry of Foreign Affair and Local Development
NAST	:	National Academy of Science and Technology
NLSS	:	Nepal Living Standard Survey
NRB	:	Nepal Rasta Bank
NRs	:	Nepalese Rupees
NTFP	:	Non Timber Forest Product
TCM	:	Traditional Chinese Medicine
TU	:	Tribhuvan University
TV	:	Television
UK	:	United Kingdom
USA	:	United States of America
USD	:	United States Dollar
VDC	:	Village Development Committee
WWF	:	World Wildlife Fund
YG	:	Yarsagumba