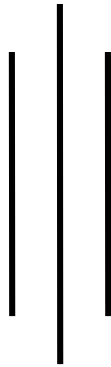
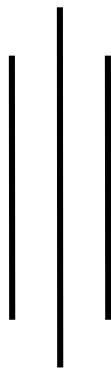


**URBAN AGRICULTURE AND POVERTY ALLEVIATION
A CASE STUDY OF ICHANGUNARAYAN VDC, KATHMANDU NEPAL**



**A THESIS REPORT SUBMITTED TO
CENTRAL DEPARTMENT OF RURAL DEVELOPMENT FOR PARTIAL
FULFILLMENT OF THE REQUIREMENTS FOR THE MASTER
DEGREE OF ARTS IN RURAL DEVELOPMENT TRIBHUVAN UNIVERSITY
KIRTIPUR, KATHMANDU, NEPAL**



**SUBMITTED BY:
BINDU DHITAL
ROLL NO. 6152
REDG. NO. 23905-95
August, 2010**

LETTER OF RECOMMENDATION

This is hereby certified that **Mrs. Bindu Dhital** has prepared this thesis entitled “**URBAN AGRICULTURE AND POVERTY ALLEVIATION: A Case Study of Inchangunarayan VDC, Kathmandu, Nepal**”, under my constant supervision for her partial fulfillment of the requirements for the **Master's Degree of Arts in Rural Development** from Central Department of Rural Development, Tribhuvan University. This thesis, therefore, is recommended for its final evaluation.

.

Ramesh Neupane

(Thesis Supervisor)

Central Department of Rural Development

Tribhuvan University, Kirtipur, Kathmandu, Nepal.

APPROVAL LETTER

This is to certify that this thesis prepared by **Mrs. Bindu Dhital** entitled, “**URBAN AGRICULTURE AND POVERTY ALLEVIATION: A Case Study of Inchangunarayan VDC, Kathmandu, Nepal**” has been approved by this Department for the **Master's Degree of Arts in Rural Development**. So, it is accepted from approval committee.

APPROVAL COMMITTEE:

(Prof. Dr. Pradeep Kumar Khadka

Head of the Department

External Examiner:

Ramesh Neupane

Supervisor:

ACKNOWLEDGEMENTS

I would like to express profound gratitude to my honorable Supervisor Mr. Ramesh Neupane, Lecturer of RD, Tribhuvan University, for his intellectual guidance, constant supervision, invaluable suggestions and moral encouragements throughout this study without which this study would not have been materialized.

I express sincere gratitude to Prof. Dr. Pradeep Kumar Khadka, Head of the Department, Central Department of Rural Development, T.U., for his intellectual academic supports with moral encouragements for this study.

I also express deep sense of thanks to officers of Pesticide, PRMD/ PPD, Department of Agriculture of the Government of Nepal, for his moral support and material assistance throughout the study period.

The researcher extends sincere appreciation and thanks to the Chief and other Staffs of the Office of District Development Committee, Kathmandu for their help and cooperation, especially in sharing material resources accorded to this study. Similarly, the Secretary and other staffs of the Ichangunarayan Village Development Committees is sincerely acknowledged for their helps as required to this study.

More importantly, the researcher expresses sincere thanks to the urban farmers of the Inchangunarayan ward no 1, 2 and 3, for providing the facts and information as required for this study, without which the completion of this study would not have been possible.

I also express deep sense of thanks to my lovely husband Uddhav Chapagan for his support in due inspiration and other miscellaneous helps during the field survey and study period.

Last but not the least; I would like to render special thanks to my beloved child, Suveschya for her patience during this study period.

Bindu Dhital

ABSTRACT

Urban agriculture (UA) is the production and management of crops and livestock/poultry in the urban or periphery area, especially to meet local needs. This study was carried out to assess and analyze the UA and poverty alleviation in terms of urban food security and employment in Ichangunarayan, Kathmandu. This study had done based on the following objectives as;

- *To examine the contribution of agriculture in poverty alleviation in urban periphery of Kathmandu valley.*
- *To analyze the attitudes of the urban people towards agricultural occupation.*
- *To analyze the impact of urban agriculture on environment, health and nutrient supply to urban farmers.*

Primary data and information were collected through sample survey applying random sampling technique, considering the households in three urban pockets- one road accessible pocket (ward no. 3), second one less accessible pocket with ward no. 2 settlement, and the last one isolated pocket (ward no 1), followed by observation and key informant discussions which includes total 64/64 household surveys and observations i.e. 20 in ward no 1, 24 in ward no. 2 and 20 in ward no.3 using structured questionnaire and observation sheet.

The study reveals that total 51.05%, 52.17% and 42.21% individuals of the farm families were involved in the agricultural occupation in ward no. 1, 2 and 3 respectively. The other sectors of employment and income in Ichangunarayan include service sector, trade/business, waged labor (specially construction works) and foreign employment (mainly in Qatar, Saudi Arab,m Malaysiya, Iraq). The analysis of farmers' responses to agriculture shows that agriculture was the means of full employment and income for 48.44% of the families surveyed; partial employment for 45.31%; additional income for more than 4.69%; and as the means to use spare time for only 1.56% families. ² test statistic shows that agricultural occupation pattern (%) in the three selected pockets was not significantly different, but the respondents' attitude with regard to agricultural occupation was significantly different, with higher reliance to agriculture in the inaccessible isolated areas than in accessible urban area. The patterns of nutrition supply

to the urban farmers reveals that up to 75.38% food supply occurs by purchasing food from others, followed by consuming own product (up to 68.20%) and selling over surplus agro-food products (up to 33.33%).

Urban agriculture is one of the major sources for reducing poverty in the study area. It is the main occupation of the majority and their way of life is mostly predominated by it. UA has been hampering the urban environment due to the excessive use of chemical fertilizer and unplanned cultivation.

To get the more benefits from it and urban based poverty reduction, government and other related organizations should increase investment in inputs services such as improved seeds, quality fertilizer and skill oriented farm based trainings too the local farmers.

TABLE OF CONTENTS

Title	Page
RECOMMENDATION	i
LETTER OF ACCEPTANCE	ii
ACKNOWLEDGEMENT	iii
ABSTRACT	iv
TABLE OF CONTENTS	vi
LIST OF TABLES	ix
LIST OF FIGURES	ix
ABBREVIATIONS /ACRONYMS	x
CHAPTER- ONE: INTRODUCTION	1
1.1 Background of the Study	1
1.1.1 Urban Agriculture	2
1.2 Statement of the Problem	2
1.3 Rationale of the Study	3
1.4 Objectives of the Study	4
1.5 Major Assumptions	4
1.6 Limitations of the Study	5
1.7 Organization of the study	6
CHAPTER- TWO: REVIEW OF LITERATURE	
2.1 Theoretical issues and concepts	6
2.2 Efforts of Agriculture Development in Nepal	8
2.3 Poverty, agriculture and rural-urban development interrelations	9
2.4 Urbanization and agriculture	10
2.5 Urban agriculture, food security, health and nutrient supply	10
2.6 Urban agriculture and employment generation	13
2.7 Urban agriculture and environment	13
2.8 Urban agriculture and sustainability	14
2.9 Institutional aspects of urban agriculture	15
2.10 Urban agriculture on policy agenda	16

CHAPTE: THREE METHODOLOGY

3.1	Research Design	21
3.2	Rational of the Selection of the Study Area	21
3.3	Sampling Procedure	21
3.4	Sources of Data and Information	21
3.5	Methods of Data Collection	22
3.5.1	Households Survey	22
3.5.2	Observation	22
3.5.3	Key Informant Interview and FGD	22
3.6	Data Analysis	23

CHAPTER – FOUR, DATA ANALYSIS AND INTERPRETATION

4.1	Introduction to the Study Area	24
4.1.1	Physical Setting	24
4.1.2	Climate and Hydrology	24
4.1.3	Social Composition	25
4.1.4	Infrastructure Facilities	25
4.1.5	Educational Status	25
4.1.6	Occupation	25
4.1.7	Agriculture Land	25
4.2	Data Analysis and Interpretation	26
4.2.1	Household size and types of houses	26
4.2.2	Employment pattern	28
4.2.3	Landholding pattern	29
4.2.4	Attitude of the Urban People towards Agricultural Occupation	30
4.2.5	Major crops and cropping pattern	31
4.2.6	Livestock and Poultry Production	32
4.2.7	Supply of Nutrition to the Urban Farmers	32
4.2.8	Resource Recycling Pattern in Agriculture	34
4.2.9	Crop Pest Management Practice	35
4.2.10	Production Trend in Agriculture	35
4.2.11	Agricultural development services and facilities	36
4.2.12	Organizations Supporting to Agriculture	36
4.2.13	Agricultural Integration Potentials	37
4.2.14	Analysis of Surrounding Environment	39

4.2.15 Agricultural Problem Intensity and Development Priority	40
--	----

CHAPTER- FIVE: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Summary	43
5.2 Conclusion	44
5.3 Recommendations	45
References	
Annexes	

LIST OF TABLES

Table 4.1 Housing types (roofing patterns) of the farm households in the study area	26
Table 4.2 Employment patterns of the farm families in Ichangunarayan, 2009	28
Table 4.3 Farmers' Responses to Agriculture in terms of Employment	30
Table 4.4 Major cropping patterns adopted by the farmers in Ichangunarayan	32
Table 4.5 Patterns of Nutrition Supply to the Urban Farmers in the Study Area	34
Table 4.6 Resource Recycling Practices in Agriculture Observed in Ichangunarayan, 2009	34
Table 4.7 Agricultural Integration Potentials in the Ichangunarayan area	38
Table 4.8 Intensity of Problems in Agriculture from Farmer' Perspectives in Ichangunarayan	41
Table 4.9 Farmers' Priority to Different Development Functions in Study Site	42

LIST OF FIGURES

Figure 4.1 Comparative awareness level of the farm families	27
Figure 4.2 Average landholding patterns in the three pockets of Ichangunarayan area	29
Figure 4.3. Major crop types grown in Ichangunarayan area	31
Figure 4.4. Contribution of Farm Products in the Nutritional Supply of Urban Farmers	33
Figure 4.5. Crop Pest Management Practices in Ichangunarayan	35
Figure 4.6. Agricultural Potentiality Indices in Ichangunarayan Based on Farmers' Responses	37
Figure 4.7. Major Environmental Components Causing Crucial influences to Surrounding Environment in Ichangunarayan	39
Figure 4.8 Respondents' Priority for Different Development functions in Study area	41

ABBREVIATIONS/ACRONYMS

AEC	Agro Enterprises Center
AGDP	Agricultural Gross Domestic Product
APP	Agriculture Perspective Plan
APSC	Agriculture Projects Services Cent
ASEAN	Association of South East Asian Nations
BDS	Bee Development Section
CBS	Central Bureau of Statistics
DADO	District Agriculture Development Office
DF	Degrees of freedom
DOA	Department of Agriculture
FAO	Food and Agriculture Organization
GDP	Gross Domestic Product
GM	Gram
HK-H	Hindu Kush Himalaya
GON	Government of Nepal
IAAS	Institute of Agriculture and Animal Science
ICIMOD	International Center for Integrated Mountain Development
JMA	John Miller Associates
KG	Kilo gram
UNDP	United Nations Development Program
VDC	Village Development Committee