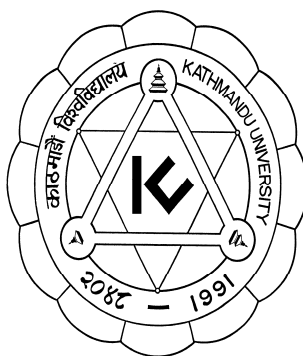


General Guidelines for Master's Dissertations



School of Science

Department of Environmental Science and Engineering

Department of Pharmacy

Department of Biotechnology

Department of Natural Sciences

Kathmandu University

Dhulikhel, Kavre, NEPAL

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1. Sequence of Items Required in Master's Dissertations

- A. Title page
- B. Dedication (optional)
- C. Certification/thesis approval by supervisor & examination committee
- D. Declaration of authenticity by student
- E. Acknowledgement
- F. Abstract
- G. Table of Contents
- H. List of Figures
- I. List of Tables
- J. Introduction
- K. Review of Literature
- L. Methods and Materials
- M. Results and Discussion
- N. Summary and Conclusions
- O. References
- P. Appendices or Annexes

2. Guidelines for layout and format of dissertation:

1. Preliminary pages should be numbered: **i, ii, iii, iv, v, vi**, etc. A page number should not be shown on the title page even though it is counted as **i**.
2. Margins should be maintained on all pages as follows:
Left margin = **3 cm** (wider for binding)
Top margin = **2.5 cm**
Right & bottom margins = **2 cm**
3. Page number should be placed at the **bottom, center** or **bottom, right** of page.
4. For labeling of Chapters and Sections follow the systematic order:
 1. Chapter 1
 - 1.1. Section 1
 - 1.1.1. Sub-section 1
 - 1.1.2. Sub-section 2, etc.
 - 1.2. Section 2
 - 1.3. Section 3, etc.
 2. Chapter 2
 3. Chapter 3, etc.
5. Use 1.5 line spacing for all text in the main body of the thesis.
6. Use Times New Roman or Courier New fonts, **12 point** size, for text.
7. Label Appendices or Annexes as: A, B, C, etc.; and give name (title) to each.
8. Label figure captions at bottom of the figure and according to the Chapter it appears in such as, Figure 1.1, Figure 1.2, Figure 2.1, Figure 2.2, Figure 3.1, etc.
9. Label table headings at the top of the table and according to the chapter it appears in, similar to the figures, e.g., Table 1.1, Table 1.2, Table 2.2, etc.
10. Cite references in the text of the thesis according to the convention:
"author's last name (date)" -- in case there is only one author
"last name of first author" *and* "last name of second author" (date) -- in case of two authors
"last name of first author" *et al.* (date) -- in case of multiple authors
11. List references alphabetically and using correct citations for books, journal articles and conference/seminar proceedings as shown in the examples (following pages).
12. If more than one reference of the same author exists then the references with the same author should be listed chronologically according to publishing date (year).
13. If more than one of the same author's publications exist in the same year (date), then use suffixes a, b, c, etc., after the publication year {e.g., 1998a; 1998b; etc.)

Sample Title Page

"TITLE OF DISSERTATION"

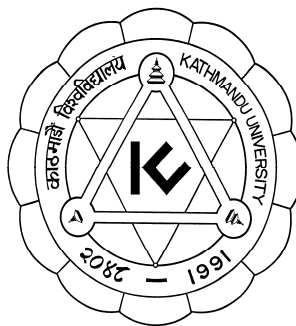
A DISSERTATION

SUBMITTED FOR THE

PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR
THE MASTER OF SCIENCE DEGREE IN ENVIRONMENTAL SCIENCE

BY

Student's name



DEPARTMENT OF ENVIRONMENTAL SCIENCE AND ENGINEERING

SCHOOL OF SCIENCE

KATHMANDU UNIVERSITY

DHULIKHEL, NEPAL

"month and year of completion"

DEDICATION

(optional)

(e.g., "*Dedicated to my Parents*")

CERTIFICATION

This dissertation entitled "-----", by "*student's name*", under the supervision of "*supervisor's name & title, dept.*", Kathmandu University, Dhulikhel, Nepal, is hereby submitted for the partial fulfillment of the Master of Science (M.Sc.) Degree in "*subject area*". This degree has not been submitted in any other university or institution previously for the award of a degree.

APPROVED BY:

Signed	Date
(Supervisor) " <i>Title, Department name</i> " Kathmandu University	

Signed	Date
External Examiner (<i>Name, title</i>) <i>Institution</i>	

Signed	Date
Head of Department (<i>Name, Department</i>) Kathmandu University Dhulikhel, Nepal	

DECLARATION

I, "*student's name*", hereby declare that the work presented herein is genuine work done originally by me and has not been published or submitted elsewhere for the requirement of a degree programme. Any literature, data or works done by others and cited within this dissertation has been given due acknowledgement and listed in the reference section.

Signature

"Student's name"

Date: _____

ACKNOWLEDGEMENTS

{Example of Acknowledgements}

This study was carried under financial assistance of ASSESS-HKH project funded by European Commission under 6th Framework Programme (INCO-CT-2005-003659).

I am extremely thankful to my supervisors Associate Prof. Dr. Subodh Sharma and Associate Professor Dr. Roshan Man Bajracharya, Department of Environmental Science and Engineering, School of Science, Kathmandu University, for their noble guidance, support with full encouragement and enthusiasm. I am grateful to Associate Professor, Dr. Sanjaya Nath Khanal, Head, Department of Environmental Science and Engineering, School of Science, Kathmandu University, for his valuable suggestions, ever encouraging and motivating guidance.

Very special thanks to team mates Mr. Hasko Nesemann, Aquatic Ecology Center, Kathmandu University, Mr. Deep Narayan Shah and Ms Ram Devi Tachamo, Khwopa College who were always there with me during sampling in the field as well as sorting and identification of the samples in the lab. Their company in the field and laboratory will be always remembered. I would like to acknowledge Mr. Kishore Atreya for providing me his valuable suggestion regarding data analysis.

I would also like to thank Ms. Srijana Shakya and Mr. Keshav Khadka for assisting me in sorting the samples, Ms. Pramila Khatri for her care in laboratory and Mr. Krishna Gahatraj for his safe and comfortable driving during the field work. I would never forget Mr. Pritam Lal Shresta for providing me a comfortable room and computer during write up of my thesis. Last but not the least I would also like to thank all of my friends, family members for encouraging and supporting me whenever I needed them.

ABSTRACT

{Concise abstract of the dissertation – should not exceed 500 words}

Example abstract

Bio-engineering is the use of living vegetation, either alone or in conjunction with civil engineering structures and non-living plant material, to reduce shallow-seated instability and erosion on slopes. The main objectives of this study were to stabilize Kathmandu University High School (KUHS) slope with the application of bio-engineering techniques and to measure the soil erosion pattern on the slope before and after the application of control measures.

A clear understanding of the causes and mechanism of failure is essential for the application of bio-engineering control measures at different locations (spots) of a slope. Turfing, grass plantation, grass seeding, brush layering, live check-dams, retaining walls, check-dams, roof runoff drainage, and tree plantation were the main technologies used for the stabilization of the slope, while erosion pin method was used for soil loss monitoring.

The KUHS slope, which had become severely degraded and unstable during the rainy season of 2002 has now become much improved and substantially stabilized. The soil loss from the slope before treatment was observed to have decreased by almost 7 times after the application of control measures. Moreover, if the slope had been not controlled, the rate of soil loss would have likely increased by 1.5 times.

Bio-engineering is not only useful for limiting lateral extent of instability but also to improve surrounding biological environment by encouraging plants and animal inhabit the slope, and gradually enables a better soil to form. Lighter, smaller structures at the upper part of the slope and heavier vegetation towards the base, to strengthen the foundation, leads to highly effective overall slope stabilization. Unlike civil engineering structures which are of limited effective life, those of vegetative measures are unlimited and usually increase with time. Improper soil disposal during construction, overloading, and resultant slope failure can be avoided by employing numerous small bench or gently sloping terraces across-slope, during construction phase. Bio-engineering is an inexpensive, socially readily adopted, environmental friendly and most suitable technology for sustainable slope stabilization.

Top margin (2.5 cm)

Page Margin Sizes

Left margin
(3 cm)

Right margin
(2 cm)

Bottom margin (2 cm)

Sample Figure Layout and Captions

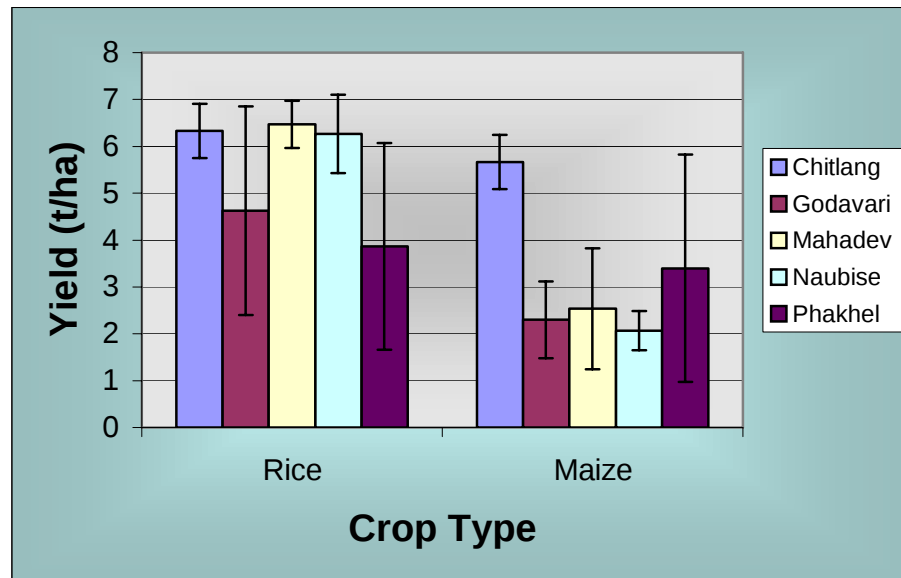


Figure 5.1. Mean maize and rice yields for five VDCs of the study area. Bars indicate standard deviations about the mean for each VDC.

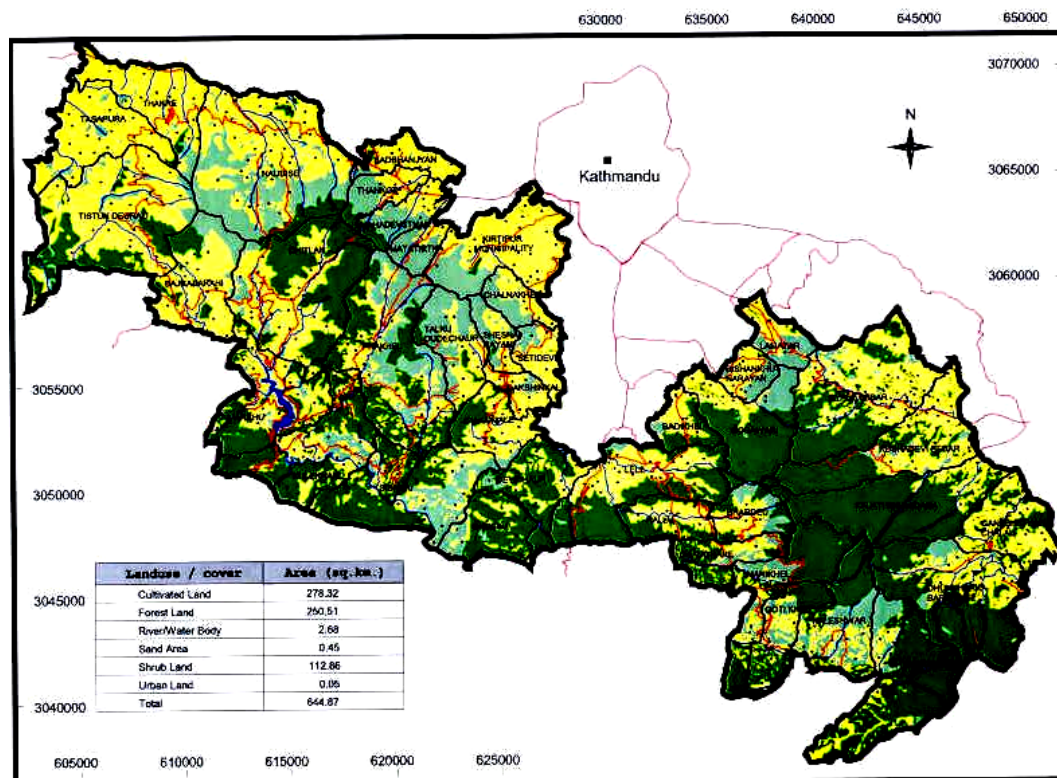


Figure 1.1. Map of the study area including parts of 5 districts and 9 Village Development Committees.

Sample Table Heading and Layout

Table 4.3. Factorial analysis of variance of soil air carbon dioxide-C concentrations by erosion phase and season.

Source	DF	Mean Squares	F-test
Replication	2	0.94	0.92ns
Erosion Phase	3	15.34	15.00**
Error A	6	1.02	
Sampling Time	18	124.00	96.10***
Time X Rep	36	1.21	0.93ns
Phase X Time	54	19.00	14.71***
Error B	108	1.29	
Residual	119		
Total	227		

DF = degrees of freedom; ns = non-significant; **, and *** indicate significance at the 0.01 and 0.001 levels of probability for the ANOVA F-test.

Table 4.4. Correlation matrix of soil air CO₂ concentrations with soil temperature, soil water content and carbon flux from the soil.

Independent variables	Dependent variables (soil air CO ₂)				
	CO ₂ -SLI	CO ₂ -MOD	CO ₂ -SEV	CO ₂ -DEP	Mean CO ₂
T-SLI	0.61**	--	--	--	--
M-SLI	0.41ns	--	--	--	--
T-MOD		0.50*	--	--	--
M-MOD		0.29ns	--	--	--
T-SEV			0.35ns	--	--
M-SEV			0.25ns	--	--
T-DEP				0.74**	--
T-DEP				0.33ns	--
Mean-T					0.61**
Mean-M					0.34ns
Mean C-Flux					0.65**

T = soil temperature, M = soil moisture, SLI = slightly eroded, MOD = moderately eroded, SEV = severely eroded, DEP = depositional phase, CO₂ denotes soil air carbon dioxide, C-flux denotes CO₂-C flux from the soil surface.

*, ** indicate statistical significance at the 0.05 and 0.01 levels of probability, respectively; ns = non-significant for Pearson's correlation coefficients.

Sample Reference Listing

Anderson, J.P.E. (1982) Soil respiration. In: A.L. Page, R.H. Miller and D.R. Keeny (eds.) *Methods of Soil Analyses, Pt. 2. Chemical and Microbiological Properties*, 2nd ed. ASA Monograph No. 9. ASA-SSSA, Madison, WI, pp. 831-871.

Anderson, D.W. (1995) Decomposition of organic matter and carbon emissions from soils. In: R. Lal, J. Kimble, E. Levine, and B.A. Stewart (eds.) *Soil Management and Greenhouse Effect. Advances in Soil Science*. CRC Press, Inc. Boca Raton, FL, pp. 165-175.

Bajracharya, R.M., Lal, R. and Kimble, J. (1998) Soil organic carbon distribution in aggregates and primary particle fractions as influenced by erosion phases and landscape position. In: R. Lal, J. Kimble, R. Follett and B.A. Stewart (eds.), *Soil Processes and the Carbon Cycle*. CRC Press LLC, pp. 353-367.

Bouwman, A.F. (1990) Exchange of greenhouse gases between terrestrial ecosystems and the atmosphere. In: A.F. Bouwman (ed) *Soils and the Greenhouse Effect*. John Wiley Publ., Chichester, UK, 575pp.

Burton, D.L. and Beauchamp, E.G. (1994) Profile nitrous oxide and carbon dioxide concentrations in a soil subject to freezing. *Soil Sci. Soc. Am. J.*, **58**:115-122.

Buyanovsky, G.A. and Wagner, G.H. (1995) Soil respiration and carbon dynamics in parallel native and cultivated ecosystems. In: R. Lal, J. Kimble, E. Levine, and B.A. Stewart (eds.) *Soils and Global Change. Advances in Soil Science*. CRC Press, Inc. Boca Raton, FL, 209-217.

Chengere, A. and Lal, R. (1995) Soil degradation by erosion of a typic hapludalf in central ohio and its rehabilitation. *Land degradation and rehabilitation*, **6**:223-238.

Dudziak, A. and Halas, S. (1996) Diurnal cycle of carbon isotope ratio in soil CO₂ in various ecosystems. *Plant and Soil*, **183**:291-299.

Duxbury, J.M., Harper, L.A. and Mosier, A.R. (1993) Contributions of agroecosystems to global climate change. In: E. Rolston, L.A. Harper, A.R. Mosier and J.M. Duxbury (eds.) *Agricultural Ecosystems Effects on Trace Gases and Global Climate Change*. ASA Special Publ. No. 55. Madison, WI, pp.1-18.

Fahnestock, P., Lal, R. and Hall, G.F. (1995) Land use and erosional effects on two Ohio Alfisols: I. Soil properties. *J. Sustainable Agric.* **7**:63-84.

Gardner, W.H. (1986) Water Content. In: A. Klute (ed.), *Methods of Soil Analysis, Part 1: Physical and Mineralogical Methods*. ASA Monograph No. 9, American Society of Agronomy, Madison, WI, pp. 493-544.

Gomez, K.A. and Gomez, A.A. (1984) *Statistical Procedures for Agricultural Research* 2nd Ed. IRRI. John Wiley and Sons, Publ. New York, NY. 680pp.

9. Procedures and guidelines for Viva-voce (oral presentation)

A. Members of the Dissertation Evaluation Committee (DEC)

- i. Dean of the School:
 - Will serve as chairperson of the Dissertation Evaluation Committee
 - Assign final grade (satisfactory; unsatisfactory)
- ii. Dissertation Supervisor:
 - Directs work of the student from inception to completion of the dissertation
 - Serve as a member of the DEC; and,
 - Takes responsibility for the viva-voce meeting
- iii. Head of Department:
 - Reads and evaluates thesis prior to the viva-voce;
 - Attends viva-voce and participates in questioning of the candidate;
 - Evaluates candidate's performance (both oral presentation and dissertation).

B. Conduct of the M.Sc. Oral Presentation

- i. The oral presentation (viva-voce) of the M.Sc. candidate is to be held after the final copy of the dissertation is ready and at least 2 weeks after the dissertation is delivered to the DEC members.
- ii. As a public event open to all faculties of the University, the viva-voce should be announced at least one week prior to the date set for the presentation.
- iii. The oral presentation will include a minimum of the following activities:
 - Student's presentation of research work (40-45 minutes) including: brief literature review, objectives of research, rationale for research, brief methodology, detailed results/findings of research, conclusions and recommendations.
 - Questions from the DEC members and other faculty members in the audience (15-20 minutes)
 - Dismissal of candidate from the meeting to await decision of DEC members.
 - Confidential discussion and evaluation of candidate's performance by the DEC members.
 - Dissertation supervisor recalls candidate to announce decision.

C. Evaluation of the Dissertation and Oral Presentation

- i. Criteria for evaluation of the written dissertation:
 - Clarity of objectives and rationale for research
 - Validity of approach and methods used for conducting the research
 - Demonstration of analytical skills viz.: selection and implementation of research work; data analysis, interpretation and conclusions drawn from findings; recommendations presented
 - Clarity and conciseness of writing
 - Appropriateness of format and presentation (international standards)
- ii. Criteria for evaluation of oral presentation (viva-voce):
 - Clear presentation of objectives and justification of the study
 - Concise, yet understandable summary of research methodology
 - Data and results presented to highlight important findings
 - Valid interpretation of results
 - Adequate summary of conclusions derived from study
 - Appropriate recommendations
 - Overall quality and style of presentation

APPENDIX

KATMANDU UNIVERSITY

School of _____

Evaluation Criteria: Written Dissertation

Candidate Name: _____

Dissertation Title: _____

Criterion	Unsatisfactory	Satisfactory	Comment
1. Clarity of purpose(s) for the research			
2. Research procedures appropriate to purpose(s)			
3. Analytical skills demonstrated:			
a. research process			
b. conclusion drawn			
c. recommendations			
4. Clarity in writing style			
5. Presentation/format meets international standards for excellence			
6. Other (state criterion)			
7. Other (state criterion)			

Overall Opinion (encircle one): Unsatisfactory

Satisfactory

Date

Signature: Dissertation Review Committee Member

HOD/ In-charge

External Examiner

APPENDIX

KATMANDU UNIVERSITY

School of _____

Evaluation Criteria: Viva-Voce

Candidate Name: _____

Dissertation Title: _____

Dissertation Supervisor: _____

Criterion	Unsatisfactory	Satisfactory	Comment
1. Clarity of purpose(s) for the research			
2. Summary of procedures related to purpose(s)			
3. Findings presented to emphasize highlights			
4. Summary of conclusions			
5. Recommendations			
6. Clarity in style of presentation			
7. Other (state criterion)			

Overall Opinion (encircle one): Unsatisfactory

Satisfactory

Date

Signature: Dissertation Review Committee Member

Dean

Dissertation Supervisor

HOD/In-charge

External Examiner