## CONTENTS

**Page No**


Declaration

Certificate

Plagiarism certificate

Abstract

Acknowledgements

Preface

List of contents

List of Figures

List of Maps

List of Plates

**Chapter 1. Introduction**

1.1 The problem

1.2 The area of study

1.3 Objectives

1.4 Methodology

**Chapter 2. Geographical Set-up of the Study Area**

2.1 Geographical set-up

2.2 Geomorphic characteristics

2.3 Climate

2.4 Drainage

2.5 Soil

2.6 Land use

2.7 Conclusion

**Chapter 3. Characteristics of the Catchment Areas**

3.1 Introduction

3.2 Hydro-geomorphology of catchments

3.3 Land use patterns and land use transformation

3.4 Rainfall characteristics

3.5 Land degradation

3.5.1 Assessment of soil erosion

3.5.2 Assessment of landslide

3.6 Conclusion

**Chapter 4. Fluvial dynamics of selected rivers in Jaldhaka-Duduya watersheds**

4.1 Introduction

4.2 Study of longitudinal profiles

4.3 Study of transverse profiles

4.4 Analysis of hydrological parameters

4.5 Role of extreme events in modeling the river valley

4.6 Conclusions

**Chapter 5. Effects of Land degradation on fluvial dynamics**

5.1 Introduction

5.2 Aggradation and widening of river channels

5.3 Bank failure

5.4 River shifting/migration/avulsion

5.5 Braiding of channels

5.6 Conclusion.

**Chapter 6. Flood; Problems and prospects**

6.1 Occurrence of major floods in the Jaldhaka-Duduya watersheds

6.2 Flood hydrographs

6.3 Processes leading to floods

6.4 Causes and effects of accelerated flood frequency and magnitude

6.5 Flood prediction

6.6 Early warning and flood forecasting

6.7 Human response

6.8 Conclusion.

**Chapter 7. Summary and conclusions**

Bibliography

**Appendix I: Data sheets**

**Appendix II: Questionnaire and schedule**