

**A GEOGRAPHICAL ANALYSIS OF LAND
USE PATTERN CHANGES IN ZAWGYI
DAM IRRIGATED AREA**

PhD DISSERTATION

LATT LATT SOE

**DEPARTMENT OF GEOGRAPHY
UNIVERSITY OF YANGON
MYANMAR**

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ABSTRACT

Zawgyi Dam Irrigated Area is located in Kyaukse District of Mandalay Region within the Dry Zone of Central Myanmar although Zawgyi Dam is situated in Yauksawk Township, Southern Shan State. Irrigated area comprises 101 village tracts in three townships, namely Kyaukse, Singaing and Myittha townships. Indeed, the Zawgyi River originates from upland area of Southern Shan State and flows throughout the Kyaukse District and join with the Myitnge River near Aebya Village in Singaing Township. To support sufficient water in the cultivated areas of Kyaukse District, the discharge of Zawgyi Reservoir flows through old channel of Zawgyi River to four diversion weirs. The construction of Zawgyi Dam support the irrigated areas of Kyaukse District, which some name as "*Ledwin koe kayaings* (district)", which suffered insufficient water for agriculture in the dry season, although there has already existed four diversion weirs while they have faced with flooding in rainy season due to the topographic situations. The aim of this paper is to assess the geographic factors for encouraging the land use pattern changes in Zawgyi Dam Irrigated area. Therefore, this research mainly emphasizes on the significance of upstream geomorphic characteristics of Zawgyi River relevant with the spatial and temporal variations of land use pattern. The major objectives of this research deal with the assessment of importance of irrigation for agricultural development. The regression analysis has been used for data relationship and to estimate the exponential parameter of independent variable. As the nature of this research mainly reveal the spatial differentiation of land use characteristics in the study area, spatial regression procedure based on GIS platform has been used in this study. According to the spatial regression analysis, within the study area, the less distance from canals can be found the more land use pattern change. Among the physical factors, the distance from canals is a major factor for downstream area of Zawgyi Dam irrigated area. In other word, the variation of water supply in study area largely controlled the development of the agricultural sector.

CONTENTS

ACKNOWLEDGEMENT

ABSTRACT

LIST OF FIGURES

LIST OF TABLES

LIST OF PLATES

INTRODUCTION

Research Background

Research Problem

Hypotheses

Aim and Objectives

Sources of Data and Methodology

Research Design

Previous Investigations and Literature Review

Definitions

Acronyms

CHAPTER I. GEOGRAPHICAL BACKGROUND

1.1 Physical Factors

1.1.1 Location, Size, Shape and Boundaries

1.1.2 Topography and Drainage

1.1.3 Geology

1.1.4 Climate

1.1.5 Soils

1.1.6 Natural Vegetation

1.2 Social Factors

1.2.1 Population Growth and Density

1.2.2 Population Distribution : Total Number and Density

1.2.3 Occupations related to the Agricultural Sector

1.2.4 Education Factor

1.2.5 Institutional Factors

**CHAPTER II. GEOMORPHIC AND HYDROLOGIC
CHARACTERISTICS OF ZAWGYI RIVER AND
IRRIGATION CANALS**

2.1 Geomorphic Characteristics of Zawgyi River

2.2 Hydrological Conditions of Zawgyi River

2.3 Hydrological Conditions of Canals

2.4 Distribution of Canals System

**CHAPTER III. SPATIAL AND TEMPORAL VARIATIONS OF LAND
COVER AND LAND USE PATTERN IN STUDY AREA**

3.1 Criteria for Land Cover Classification

3.2 General Land Cover Change

3.2.1 Spatial land cover change

3.2.2 Temporal land cover change

3.3 Agricultural Land Use Types

3.4 Seasonal Variations of Agricultural Land Use Pattern

CHAPTER IV. ANALYSIS OF FACTORS AFFECTING THE LAND USE PATTERN CHANGE IN THE STUDY AREA

4.1 Determination of Interest Zones for Land Use Pattern Change

4.2 Factors Affecting the Land Use Pattern Change

4.2.1 Physical Factors

4.2.2 Anthropogenic Factors

4.3 Dependent Variable: Change Detection of Land Use Pattern

4.4 Structural Detection in Control Variables

4.5 Relationship between Controlled Variable and Land Use Pattern Change

CHAPTER V. THE IMPACTS OF THE ZAWGYI DAM ON THE IRRIGATED AREA

5.1 Physical Impacts

5.1.1 Upstream impacts

5.1.2 Impact below dam

5.2 Environmental Impacts

5.2.1 Effects on Ecology and Agriculture

5.3 Human Impacts

5.3.1 Effects on Human activities

CHAPTER VI FINDINGS AND SUGGSTIONS

CONCLUSION

REFERENCES

APPENDICES