

## CONTENTS

	<b>Page</b>
<b>ACKNOWLEDGEMENTS</b>	<b>iii</b>
<b>ABSTRACT (ENGLISH)</b>	<b>iv</b>
<b>ABSTRACT (THAI)</b>	<b>v</b>
<b>LIST OF TABLES</b>	<b>ix</b>
<b>LIST OF FIGURES</b>	<b>x</b>
<b>CHAPTER I INTRODUCTION</b>	<b>1</b>
1.1 Background and Justification	1
1.2 Objectives	2
1.3 Scope and Limitations of the Study	2
1.4 Definitions, used in this study	4
1.5 The concept ideas in the study	4
1.6 Expected Results	5
<b>CHAPTER II LITERATURE REVIEW</b>	<b>6</b>
2.1 Abandoned Area	6
2.1.1 Concepts and Characteristics of Abandoned Area	6
2.1.2 The Causes of Abandoned Area	8
2.1.3 Impact of Abandoned Areas	9
2.2 The Application of Geo-Informatics System	9
2.2.1 Remote sensing	10
2.2.2 Geographic information system (GIS)	10
2.2.3 Global positioning system	10
2.2.4 Concepts of remote sensing data improvement	10
2.2.5 Satellite image data	12
2.3 Analysis of Images from Earth Resources Satellite	13
2.3.1 Data classification	13
2.3.2 Concepts of Object-based classification	14

## **CONTENTS (cont.)**

	<b>Page</b>
2.4 Law Related to Land Use and City Plan	16
2.5 Study Area	17
2.5.1 History	17
2.5.2 Geography	18
<b>CHAPTER III METHODOLOGY</b>	<b>20</b>
3.1 Materials	20
3.2 The procedure of the research.	21
3.2.1 Land use classification	21
3.2.2 Abandoned areas pattern classification	24
3.3 To estimate the potentiality of the abandoned areas development in according with environmental management.	28
3.3.1 Estimate the potentiality of the abandoned areas development in according with environmental management.	28
3.3.2 Preliminary development plans abandoned areas and management abandoned areas.	28
<b>CHAPTER IV RESULTS</b>	<b>30</b>
4.1 Classifications data land use with satellite images	30
4.1.1 Image Pre-processing	30
4.1.2 Land use Classification	32
4.2 Classifications of abandoned areas in Phuttamonthon district, Nakhon Pathom province.	35
4.2.1 Nomenclature identification	35
4.2.2 Abandoned Areas Classification	37
4.3 Assessment of potential development abandoned areas corresponding environmental management.	60

**CONTENTS (cont.)**

	<b>Page</b>
4.3.1 Action on abandoned areas corresponding to environmental management.	60
4.3.2 Laws and related regulations are used in abandoned area management.	62
<b>CHAPTER V CONCLUSIONS AND RECOMMENDATIONS</b>	<b>66</b>
5.1 Conclusion	66
5.2 Recommendations	68
5.3 Expected advantages	69
5.4 Problems and obstacles	70
<b>REFERENCES</b>	<b>71</b>
<b>APPENDIX</b>	<b>76</b>
<b>BIOGRAPHY</b>	<b>80</b>

## LIST OF TABLES

<b>Table</b>		<b>Page</b>
2-1	Data Overview of Thaichote Satellite	13
3-1	Fundamental Data	21
4-1	Land use in Phuttamonthon district Nakhon Pathom province in 2012	32
4-2	Analysis from satellite data in ground truth	35
4-3	Typed of abandoned areas in Phuttamonthon district Nakhon Pathom province	36
4-4	Parameter from multi scale segmentation	37
4-5	Characterization of the statistical abandoned areas sample	39
4-6	Characterization of the statistical other land use sample	40
4-7	Results of classifications Thaichote satellite by object-oriented classification techniques.	59
4-8	Shows the estimated accuracy of the classification of satellite imagery Thaichote in 2012 to 5 categories.	59

## LIST OF FIGURES

<b>Figures</b>	<b>Page</b>
1-1 Study area boundaries	3
1-2 The concept ideas in the study	4
2-1 Data Overview of Thaichote Satellite	13
3-1 Flow diagram of abandoned areas classification	29
4-1 Thaichote satellite image through pre-processing in Phuttamonthon district Nakhon Pathom province in 2012	31
4-2 Land used in Phuttamonthon district Nakhon Pathom province in 2012	34
4-3 Section of Thaichote satellite image at scale	38
4-4 Result of Setting Condition for Classification.	41
4-5 Result of classification of Thaichote satellite image order 1	43
4-6 Result of classification of Thaichote satellite image order 2	45
4-7 Result of classification of Thaichote satellite image order 3	47
4-8 Result of classification of Thaichote satellite image order 4	49
4-9 Result of classification of Thaichote satellite image order 5	51
4-10 Result of classification of Thaichote satellite image order 6	53
4-11 Result of classification of Thaichote satellite image order 7	55
4-12 Result of classification of Thaichote satellite image order 8	57
4-13 Result classification of satellite imagery Thaichote from object based.	58