LAND COVER MAPPING FROM KAMPUNG BARI BESAR TO KAMPUNG MERANG

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LAND COVER MAPPING FROM KAMPUNG BARI BESAR TO KAMPUNG MERANG

By

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the requirements for the degree of
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TABLE OF CONTENTS

		Page
ACKNOWLEDGEMENT		ii
TABLE OF CONTENTS		iii
LIST OF TABLES		vi
LIST OF FIGURE		vii
LIST OF ABBREVIATION		ix
ABSTRACT		x
ABSTRAK		xi
CHAPTER 1	**INTRODUCTION**	1
1.1	Introduction of remote sensing	1
1.2	Objectives	2
CHAPTER 2	**LITERATURE REVIEW**	3
2.1	REMOTE SENSING	3
2.1.1	Landsat TM (Thematic Mapper)	5
2.1.2	SPOT Satellite	7
2.2	LAND COVER AND LAND USE	8
2.2.1	Land cover classification	10
2.3	MANGROVE	15
2.3.1	Mangrove forest	15

2.3.2	Roles of mangrove in Setiu Wetland ecosystem	16
2.3.3	Description of mangrove forest at Setiu Wetland	17
2.3.4	The distribution of mangrove forest at Setiu Wetland	19
2.3.5	List of mangrove species	19
CHAPTER 3	**METHODOLOGY**	25
3.1	STUDY AREA	25
3.2	DATA ACQUISITION AND PRE-PROCESSING	26
3.3	IMAGE CLASSIFICATION	28
3.3.1	Ground truth	28
3.4	ACCURACY ASSESSMENT	29
CHAPTER 4	**RESULT**	35
4.1	DESCRIPTION OF LAND COVER AND LAND USE OF STUDY AREA	35
4.2	UNSUPERVISED CLASSIFICATION	35
4.3	GROUND TRUTHING	38
4.4	SUPERVISED CLASSIFICATION	47
4.5	ACCURACY ASSESSMENT	47
CHAPTER 5	**DISCUSSION**	52
5.1	Land Cover	52
5.2	Problem using remote sensing technique	55

Perpustakaan
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CHAPTER 6	**CONCLUSION AND RECOMMENDATION**	56
6.1	Conclusion	56
6.2	Recommendation	57
REFERENCES		58
CURICULUM VITAE		60

LIST OF TABLES

TABLE		PAGE
2.1	Several Common Analysis With Combination Of Bands Using Landsat TM	6
2.2	USGS Land Use/ Land Cover Classification System for Use with Remote Sensing.	11
2.3	Representative Image Interpretation Format for Various Land Use and Land Cover Classification Levels.	12
2.4	Minimum Sizes of Land Use and Land Cover Units Mapped Various Classification Levels.	14
2.5	Exclusive Mangrove Species at Setiu Wetland	23
2.6	Non-Exclusive Mangrove Species	24
3.1	Ground Control Point	30
4.1	Cluster of Unsupervised Classification for Image 2002	36
4.2	List of Land Cover Class from Ground Field Checking	39
4.3	Statistical Result of Unsupervised Classification	48
4.4	Confusion Matrix for Training Area in Year 2002	50
4.5	Classification Error for the 2002 Land Cover Map Determined From 171 Random Sampling Points	51

LIST OF FIGURES

FIGURE		PAGE
2.1	Map Showing the Distribution of Mangrove Forest Type From Kg. Gong Batu to Pulau Sotong.	20
2.2	Map Showing the Distribution of Mangrove Forest Type From Kg. Mangkuk to Kg. Penarik.	21
2.3	Map Showing the Distribution of Mangrove Forest Type From Pulau Sotong to Kg. Mangkuk .	22
3.1	Landsat TM 1997 of Setiu, Terengganu	27
3.2	Ground Checking Point	33
3.3	Flow Diagram of Study	34
4.1	The Result of Unsupervised Classification	37
4.2a	Cleared Area	40
4.2b	High Vegetation	41
4.2c	Mixed-Mangrove Forest	42
4.2d	Settlement	43
4.2e	Sandy Area	43
4.2f	Water Bodies	44
4.2g	Gelam	45
4.2h	Swamp Forest	46

4.2i Agricultural Land 46

4.3 Result of Supervised Classification 49

LIST OF ABBREVIATION

ERDAS	- Earth Resources Data Analysis System
GCP	- Ground Control Points
GIS	- Geographical Information System
GPS	- Global Positioning System
HRV	- High Resolution Visible
IFOV	- Instantaneous Filed of View
ISODATA	- Iterative Self-Organizing Data Analysis Technique
LANDSAT	- Land Satellite
MACRES	- Malaysian Center for Remote Sensing
MRSO	- Malaysian Rectified Skewed Orthomorphic
MSS	- Multi-Spectral Scanner System
NOAA	- National Atmospheric and Oceanic Administrative
RMSE	- Root Means Square Error
RSO	- Rectified Skew Orthomorphic
SPOT	- Spatial Database Engine
TM	- Thematic Mapper
USGS	- United State Geological Survey

ABSTRACT

Remote sensing technology is very important to manage in one country. This technology can improve the ability in various type of study like in forestry, agriculture and also to manage in some area. This study was done to recognize the mangrove area. The satellite image (Landsat TM 2002) dated on 14th July 2002 was used in this study and had been classified and analyzed using 'Maximum Likelihood Classifier' (MLC)' with overall accuracy of 94.19%. The overall area had been study are 9 414 ha. There are eleven class had been classified. There are 'High Vegetation', 'Cleared Area', 'Mixed Mangrove Forest', 'Agricultural Land', 'Swamp Forest', 'Gelam', 'Sandy Area', 'Clouds', 'Water Bodies', 'Settlement' and 'Clouds Shadow' using the combination of band 4, 5, 3. The highest percentage between all the classes had been shown by high vegetation with 42.11% and then followed by gelam with 15.29%. The third highest percentage is cleared area with 9.39%. The lowest percentage is from clouds shadow with 0.17%. In this study the land cover classes can be simplified into four categories, the first one is vegetation such as gelam, mixed mangrove forest, high vegetation and swamp forest. The second category is cleared area. After that an urban area such as settlement and the last category is agriculture such as coconut palm and agriculture land.

PEMETAAN LITUPAN DARI KAMPUNG BARI BESAR KE KAMPUNG MERANG MENGGUNAKAN TEKNIK PNEDERIAAN JAUH

ABSTRAK

Teknologi ini mampu meningkatkan kemampuan dalam pelbagai bidang seperti pengurusan dalam bidang perhutanan, bidang pertanian serta pengurusan di sesuatu kawasan. Kajian ini dijalankan bagi mengenal pasti kawasan hutan paya bakau yang masih ada di kawasan tersebut. Imej satelit (Landsat TM) yang digunakan dalam kajian ini bertarikh 14 haribulan Julai 2002 dan dikelaskan mengikut 'Maximum Likelihood Classifier' (MLC) dengan ketepatan 94.19%. Berdasarkan kepada keputusan, terdapat 11 kelas yang telah dikenalpasti iaitu 'High Vegetation', 'Cleared Area', 'Mixed Mangrove Forest', 'Agricultural Land', 'Swamp Forest', 'Gelam', 'Sandy Area', 'Clouds', 'Water Bodies', 'Settlement' and 'Clouds Shadow' dengan menggunakan kombinasi band 4, 5, 3. Peratusan tertinggi dilihat daripada kelas kawasan tumbuhan yang banyak dengan jumlah 42.11% and diikuti oleh gelam dengan 15.29%. Peratusan ketiga tertinggi adalah kawasan terbuka dengan 9.39%. Manakala jumlah peratusan terendah adalah daripada kelas bayang awan dengan 0.17%. Dalam kajian ini, pengkelasan penggunaan tanah boleh dipermudahkan kepada empat kategori iaitu pertama adalah tumbuhan seperti gelam, hutan bakau bercampur, kawasan tumbuhan yang banyak dan hutan paya. Kategori yang kedua adalah kawasan terbuka. Seterusnya kawasan maju seperti kawasan penempatan dan kategori terakhir adalah seperti pokok kelapa sawit dan kawasan pertanian.