

LIST OF CONTENTS

Abstract	i
Intisari	ii
Acknowledgement.....	iii
List of contents	iv
List of figures	vii
List of table	ix
List of abbreviation	x
Chapter I. INTRODUCTION	1
1.1. Research Background	1
1.2. Research Problems.....	5
1.3. Research Objectives and Questions.....	6
1.4. Scientific Significance	7
Chapter II. LITERATURE REVIEW	8
2.1. Mangroves	8
2.2. Winds	10
2.3. Waves	10
2.4. Currents.....	11
2.5. Tides	12
2.6. Sediments Transport	13
2.7. Concept of Perception.....	14
2.8. Detection of Coastline Changes	16
2.9. Image Classification	17
2.10. NDWI and NDVI.....	17
Chapter III. RESEARCH METHOD	19
3.1. Data Required	19
3.2. Data Analysis and Data Output	23
3.2.1. Analysis on spatial and temporal changes of mangrove forest due to coastline changes	23
3.2.1.1. Analysis on spatial and temporal changes of mangrove forest due to coastline changes utilising historical topography maps.....	23
3.2.1.2. Analysis on spatial and temporal changes of mangrove forest due to coastline changes utilising medium resolution images of Landsat....	24
3.2.1.2.1. Analysis on spatial and temporal changes of mangrove forest	25
3.2.1.2.2. Analysis on spatial and temporal changes of coastline	28
3.2.1.3. Analysis on spatial and temporal changes of mangrove forest due to coastline changes utilising high resolution images of Google Earth.	30
3.2.2. Analysis on community's perception toward mangrove forest changes due to coastline changes	31
3.2.2.1. Sampling design.....	31
3.2.2.2. Questionnaire	33
3.2.2.3. Data Coding	34
3.2.2.4. Data analysis on community's perception toward mangrove forest changes.....	34

3.2.2.4.1. Community's Perception Toward Mangrove Forest Changes	34
3.2.2.4.2. Community's Perception Toward the Influence of Mangrove Forest Changes	35
3.2.2.4.3. Community's Adjustment/Response Toward Mangrove Forest Changes	35
3.2.2.4.4. Community's Perception Toward Benefit from Mangroves Non-timber Forest Products	35
3.2.2.4.5. Community's Acceptance on Government Mangroves Program....	35
3.2.2.4.6. Correlation Between Community's Perception Toward the Influences of Mangroves Forest Changes, Adjustment/Response Toward Mangrove Forest Changes, Perception Toward Benefit from Mangroves Non-timber Forest Products, and Acceptance on Government Mangroves Program	36
 Chapter IV. STUDY AREA	 37
4.1. General Overview of Rembang District	37
4.1.1. Geographical situation.....	37
4.1.2. Hidrology and Climatology.....	37
4.1.3. Geological setting.....	38
4.2. General overview of Kaliori Sub-District.....	39
4.3. General overview of Rembang Sub-District.....	41
 Chapter V. RESULTS AND DISCUSSION	 44
5.1. Analysis on Spatial and Temporal Changes of Mangrove Forest due to Coastline Changes.....	44
5.1.1. Analysis on spatial and temporal changes of mangrove forest due to coastline changes utilising historical topography maps	44
5.1.2. Analysis on spatial and temporal changes of mangrove forest due to coastline changes utilising medium resolution images of Landsat	47
5.1.3. Analysis on spatial and temporal changes of mangrove forest due to coastline changes utilising high resolution images of Google Earth....	60
5.2. Analysis on Community's Perception Toward the Influence of Mangrove Forest Changes due to Coastline Changes.....	67
5.2.1. Characteristics of Respondents	67
5.2.1.1. Age distribution	67
5.2.1.2. Gender.....	67
5.2.1.3. Occupation	68
5.2.1.4. Income.....	69
5.2.1.5. Education level.....	69
5.2.1.6. Length of stay	70
5.2.1.7. Household size	70
5.2.1.8. Number of income source	70
5.2.2. Community's Perception Toward Mangrove Forest Changes	71
5.2.3. Community's Perception Toward the Influence of Mangrove Forest Changes	73
5.2.4. Community's Adjustment/Response Toward Mangrove Forest Changes	76
5.2.5. Community's Perception Toward Benefit from Mangroves Non-timber Forest Products	79

5.2.6. Community's Acceptance on Government Mangroves Program	81
5.2.7. Correlation Between Community's Perception Toward the Influences of Mangroves Forest Changes, Adjustment/Response Toward Mangrove Forest Changes, Perception Toward Benefit from Mangroves Non-timber Forest Products, and Acceptance on Government Mangroves Program	84
5.2.7.1. Correlation between community's perception toward the influences of mangrove forest changes and adjustment/response toward mangrove forest changes.....	85
5.2.7.2. Correlation between community's adjustment/response toward mangrove forest changes and perception toward benefit from mangroves non-timber forest products.....	85
5.2.7.3. Correlation between community's adjustment/response toward mangrove forest changes and acceptance on government mangroves program .	85
5.3. Discussion.....	86
 Chapter VI. CONCLUSION AND RECOMMENDATION.....	 99
8.1. Conclusion	99
8.2. Recommendation	101

APPENDIX

Appendix 1. Distribution of ground reference points	
Appendix 2. Visual observation on ground reference points	
Appendix 3. Frequency and procentage of maximum wind during 2013	
Appendix 4. Frequency and procentage of maximum wave during 2013	
Appendix 5. Frequency and procentage of maximum currents during 2013	
Appendix 6. Results of statistic test	
Appendix 7. Spatial distribution of respondents' perception toward the influence of mangrove forest changes in the surveyed villages	
Appendix 8. Spatial distribution of respondents' adjustment/response toward mangrove forest changes in the surveyed villages	
Appendix 9. Spatial distribution of respondents' perception toward benefit from mangroves ntfp in the surveyed villages	
Appendix 10. Spatial distribution of respondents' perception toward benefit from government mangrove program in the surveyed villages	
Appendix 11. Questionnaire for respondents	
Appendix 12. Photographs during the field survey	