



DETERIORATION AND CONSERVATION OF 19TH
CENTURY MALAY PENINSULA MANUSCRIPTS

BY

SHARIFAH TAHIRAH BT SYED KAMARULZAMAN

A thesis submitted in fulfilment of the requirement
for the degree of Master of Science (Built Environment)

Kulliyyah of Architecture and Environmental Design
International Islamic University Malaysia

NOVEMBER 2014

ABSTRACT

Many scholars have mainly emphasized on the characteristics and the background history of Malay manuscripts. However, there is lack of study on the problems faced by Malay manuscripts. The aim of this study is to have a better understanding about the deterioration factors that are commonly faced by Malay manuscripts of the 19th century from the Malay Peninsula and to establish recommendations for the conservation and restoration of the manuscripts. The main objective of this study was to identify the properties and physical appearances of the selected Malay manuscripts and their deterioration factors. This study was carried out also to identify preventive measures and techniques for conserving and restoring old Malay manuscripts. This study was conducted in the Islamic Arts Museum Malaysia and the National Library Malaysia. Thirty-five samples of Malay manuscripts were selected; 25 from the Islamic Arts Museum Malaysia and 10 from the National Library Malaysia. Two out of the 35 manuscripts were selected as case studies for detailed observations. The conditions of each of the 35 samples were investigated by using visual analysis technique with the help of non-destructive instruments such as magnifying glass, microscope, pH paper strips and photographic documentation. A condition checklist was designed to investigate and evaluate the deterioration of the selected Malay manuscripts. In this process, the physical condition of the manuscripts that were affected by environmental, biological, chemical and mechanical factors were examined. The results reveal that 39 % of the Malay manuscripts were affected by environmental factors and 60% of the selected Malay manuscripts were in bad conditions where the manuscripts had experienced major deterioration. The findings show that 34 types of deteriorations were identified, which include dust and dirt depositions, insect infestation, the presence of fungus, water stains, brittleness, folds, creases, abrasion and others. The highest occurrences of deterioration were dirt and dust depositions, which was on 100% of the selected manuscripts. In conclusion, this study has established the problems faced by Malay manuscripts and offers suggestions on restoration of 19th century Malay Peninsula manuscripts. The author recommends further research to be established for improving the conditions and extending the lifespans of 19th century Malay Peninsula manuscripts.

ملخص البحث

أكد كثير من العلماء في كثير من الأحيان على الخصائص و الخلفية التاريخية للمخطوطات الملايوية، غير أن هناك فجوة في الدراسة تتعلق بالمشاكل التي تواجه هذه المخطوطات. إنّ الغرض الأساس لهذا البحث هو السعي الى فهم أفضل لأسباب التدهور التي تحل بمخطوطات القرن التاسع عشر لشبه جزيرة الملايو، و لإقتراح سبل للحفاظ عليها وترميمها و استعادة ما قد لحق بها من ضرر الي أفضل حال. و من المهمات الأساس لهذه الدراسة تخصيص و تعيين المكونات و الخصائص الجسمية لهذه المخطوطات و دراسة الأسباب التي أدت الي تلفها. و قد تميّزت هذه الدراسة بأنها قد تعرضت للعوامل الوقائية و الفنية في الحفاظ على المخطوطات الملايوية القديمة و إعادة ترميمها. أجري هذا البحث في متحف الفن الإسلامي في ماليزيا و المكتبة الوطنية بماليزيا ايضا. أُختيرت خمسة و ثلاثون مخطوطة ، خمسة و عشرون منها من متحف الفن الإسلامي و العشرة الباقية من المكتبة الوطنية الماليزية. و بعد ذلك أُختيرت مخطوطتان اثنتان من ضمن مخطوطات كلها للدراسة الدقيقة و التحليل. تمّ إختبار حالة كل واحدة من الخمسة و الثلاثين مخطوطة عن طريق التحليل النظري مع الإستعانة بآلات غير مدمرة (للمخطوطات) كالعندسة المكبرة، و المجهر و أورك مقياس الحموضة و التوثيق الصوري. و قد تمّ اعداد قائمة تبين كيفية فحص أحوال المخطوطات يتم عن طريق التفتيش و تقييم درجة التلف التي لحقت بالمخطوطات المختارة. تمّ فحص المخطوطات التي أثرت عليها العوامل البيئية، الكيميائية و الميكانيكية. نتج عن هذه الفحوصات الكشف عن أن تسع و ثلاثين بالمئة من هذه المخطوطات قد تأثرت بالعوامل البيئية، و ستين بالمئة من النسبة المتخوية في حالة رديئة من التدهور. أثبتت النتائج بأن أربعة و ثلاثين نوعا من التلف لحق بالمخطوطات، منها: ترسيب الأوساخ و الغبار، الإحتشار ، الفطريات، بقع الماء، الجفاف، الكشط، و الخدش و غير ذلك. لُوحظ بأن أكثر التلف حدوثاً هو ترسيب الأوساخ و الغبار و الذي تعتبر نسبته مائة في المائة علي الخطوط المختارة ككل. و في الختام، أثبت هذا البحث المشاكل التي تواجه المخطوطات الملايوية و قدم مجموعة من الإقتراحات في سبيل التغلب عليها كما أوصى الباحث بإجراء دراسات من أجل تحسين حالة المخطوطات الملايوية و إطالة عمرها

APPROVAL PAGE

I certify that I have supervised and read this study and that in my opinion, it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a thesis for the degree of Master of Science (Built Environment).

.....
Mandana Barkeshli
Supervisor

.....
Shamzani Affendy Mohd Din
Co-Supervisor

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a thesis for the degree of Master of Science (Built Environment).

.....
Zumahiran Kamaruddin
Internal Examiner

.....
D'zul Haimi Md. Zain
External Examiner

This thesis was submitted to the Department of Applied Arts and Design and is accepted as a fulfilment of the requirement for the degree of Master of Science (Built Environment).

.....
Zumahiran Kamaruddin
Head, Department of Applied
Arts and Design

This thesis was submitted to the Kulliyyah of Architecture and Environmental Design and is accepted as a fulfilment of the requirement for the degree of Master of Science (Built Environment).

.....
Khairuddin Abdul Rashid
Dean, Kulliyyah of Architecture
and Environmental Design

DECLARATION

I hereby declare that this thesis is the result of my own investigations, except where otherwise stated. I also declare that it has not been previously or concurrently submitted as a whole for any other degrees at IIUM or other institutions.

Sharifah Tahirah bt Syed Kamarulzaman

Signature.....

Date.....

INTERNATIONAL ISLAMIC UNIVERSITY MALAYSIA

**DECLARATION OF COPYRIGHT AND AFFIRMATION
OF FAIR USE OF UNPUBLISHED RESEARCH**

Copyright © 2014 by Sharifah Tahirah bt Syed Kamarulzaman. All rights reserved.

**DETERIORATION AND CONSERVATION OF 19th CENTURY MALAY
PENINSULA MANUSCRIPTS**

No part of this unpublished research may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording or otherwise without prior written permission of the copyright holder except as provided below.

1. Any material contained in or derived from this unpublished research may only be used by others in their writing with due acknowledgement.
2. IIUM or its library will have the right to make and transmit copies (print or electronic) for institutional and academic purposes.
3. The IIUM library will have the right to make, store in a retrieval system and supply copies of this unpublished research if requested by other universities and research libraries.

Affirmed by Sharifah Tahirah bt Syed Kamarulzaman

.....
Signature

.....
Date

This work is dedicated to:

*The Glory of Allah SWT, the Creator of the Heavens and the Earth and all that is in
between them.*

Allah SWT

ACKNOWLEDGEMENTS

In The Name of Allah S.W.T, Most Gracious, Most Merciful.

All praise to Allah SWT, the Lord of the world, Peace be upon Muhammad, His Servant and His Messenger.

I hereby would like to extent my heartfelt and gratitude to my supervisor, Assoc Prof. Dr Mandana Barkeshli for having confidence in me, for guiding me throughout the toughest time and for inspiring diligence in me. In addition, a deepest appreciation goes to all the lecturers, which involved directly and indirectly; especially to my Co supervisor Asst. Prof. Engr. Dr. Shamzani Affendy Mohd Din and my examiner Asst Prof. Dr. Zumahiran Kamaruddin.

My gratitude also goes to my husband, Ahmad Zaki b. Ahmad Fakri who had helped and supported me throughout this journey. My deepest appreciation goes to him for the endless contributions in completing this research. I dedicate this research to my parents, Syed Kamarulzaman b Syed Kabeer and Latiffah bt Ahmed Mustaffa whom developed in me the values and self-confidence which take to my accomplishment today. They taught me how to read and learn since I was in the cradle. The wonderful lessons and stories had given me the endless joy and foremost, had instilled in me habit to read. I always believed those were most valuable gift anyone could receive. Thousand thanks to my family and my in-laws for helping me throughout this research and believing in me. Not to forget, I would also like to thank Islamic Arts Museum Malaysia and Manuscript Centre, National Library Malaysia for the technical support and inspiring advice during my research attachment.

I would also like to record my deepest sense of appreciation to other staffs and the technicians for every guidance, cooperation and knowledge shared throughout the completion of this research. Special thanks are dedicated to all my good friends especially Mrs. Rajabi Razak and Mr. Mukhtaruddin Musa, for the love, support, guidance, knowledge and laughter that we shared through thick and thin throughout our journey in International Islamic University Malaysia.

TABLE OF CONTENTS

Abstract.....	ii
Abstract in Arabic	iii
Approval Page	iv
Declaration Page.....	v
Copyright Page	vi
Dedication	vii
Acknowledgements	viii
List of Tables.....	xii
List of Figures	xiii
CHAPTER 1: INTRODUCTION	1
1.1 General Background.....	1
1.2 Problem Statement	2
1.3 Research Aims	3
1.4 Research Objectives	4
1.5 Research Hypothesis	4
1.6 Research Methodology	4
1.6.1 Historical Analysis	4
1.6.2 Scientific Analysis.....	5
1.6.3 Scope of Research	5
1.7 Significance of Study.....	6
CHAPTER 2: LITERATURE REVIEW.....	7
2.1 Introduction.....	7
2.2 Significance of Manuscript for Mankind.....	7
2.3 Background History of Malay Manuscripts.....	9
2.4 Malay Manuscripts Characteristics	10
2.4.1 Catchword.....	14
2.4.2 Materials of Malay Manuscripts	14
2.4.2.1 Paper as a Medium	15
2.4.2.2 Inks Used on Malay Manuscripts.....	18
2.4.2.3 Covers of Malay Manuscripts	20
2.5 Problems Faced by Malay Manuscripts.....	20
2.5.1 Physical Problems	21
2.5.2 Lack of Awareness	23
2.5.3 Lack of Facilities or Expertise	24
2.6 Preventive Conservation on Manuscripts	24
2.6.1 Deterioration Factors of Paper	25
2.6.1.1 Environmental and Biological Deterioration.....	26
2.6.1.2 Mechanical and Chemical Deterioration	28
2.6.2 Care and Maintenance of Manuscripts	31
2.6.2.1 Climate and Environment Control	31
2.6.2.2 Control of Light	33
2.6.2.3 Control of Micro Organism and Insects	33

2.6.3 Conservation Treatment.....	34
2.6.3.1 Manuscript Examination.....	35
2.6.3.2 Manuscript Cleaning	35
2.6.3.2.1 Dry Cleaning.....	36
2.6.3.2.2 Wet Cleaning	36
2.6.4 Restoration of Manuscript	38
2.6.4.1 Flattening Process	39
2.6.4.2 Mending Process	39
2.6.4.3 Sizing.....	40
2.7 Conclusion	41
CHAPTER 3: RESEARCH METHODOLOGY	43
3.1 Introduction.....	43
3.2 Research Design.....	43
3.3 Data Collection.....	44
3.3.1 Sample Population.....	45
3.3.2 Collection.....	46
3.4 Methods Used to Measure Variables.....	46
3.4.1 Visual Examination	47
3.4.2 Condition Survey Form	47
3.4.2.1 Evaluating Survey Results and Establishing Overall Condition.....	48
3.4.3 Tools and Materials for Restoration Work	48
3.5 Conclusion	49
CHAPTER 4: VISUAL ANALYSIS OF THE MANUSCRIPT COLLECTION.....	50
4.1 Introduction.....	50
4.2 Collection Distributions.....	50
4.2.1 Samples Collection from the Islamic Arts Museum Malaysia ...	50
4.2.2 Samples Collection from National Library Malaysia.....	52
4.3 Sample Collection Characteristic	52
4.3.1 Object Type.....	53
4.3.2 Material & Techniques	54
4.4 Collection Condition Distributions	69
4.4.1 Collection from Islamic Arts Museum Malaysia	69
4.4.2 Accumulative Figures.....	74
4.5 Conclusion	75
CHAPTER 5: RESULTS AND FINDINGS	76
5.1 Introduction.....	76
5.2 Results.....	76
5.3 Discussions on Problems and Number of Occurrence	79
5.4 Case Study 1 from Islamic Arts Museum Malaysia Collection.....	104
5.4.1 Object Detail Description	104
5.4.1.1 Cover	104
5.4.1.2 Manuscript	106
5.4.2 Condition of the Manuscript	110
5.4.2.1 Cover	110
5.4.2.2 Manuscript	117

5.5 Case Study 2 from National Library Collection	122
5.5.1 Object Detail Description	123
5.5.1.1 Cover	123
5.5.1.2 Manuscript	124
5.5.2 Condition of the Manuscript	128
5.5.2.1 Cover	128
5.5.2.2 Manuscript	132
5.6 Conclusion	139
CHAPTER 6: GUIDELINES ON PREVENTIVE MEASURES, CONCLUSIONS AND RECOMMENDATIONS	140
6.1 Introduction	140
6.2 Research Limitation.....	140
6.3 Guidelines on Preventive Measure	140
6.3.1 The Environment.....	141
6.3.1.1 Temperature	142
6.3.1.2 Relative Humidity (RH)	142
6.3.1.3 Light	142
6.3.2 Handling Malay Manuscript	143
6.3.3 Lifting and Moving Malay Manuscripts.....	145
6.3.4 Storage for Malay Manuscript	146
6.4 Guidelines on Conservation Treatment for Malay Manuscripts	148
6.4.1 Examination and Documentation	148
6.4.2 Mould and Insect Treatment	151
6.4.3 Removal of Old Repair	152
6.4.4 Dry Cleaning	154
6.4.5 Wet Cleaning and De-Acidification	156
6.4.6 Flattening	159
6.5 Guidelines on Restoration of Malay Manuscript	160
6.5.1 Steps of Repair	161
6.5.1.1 Filling and Mending	164
6.5.1.2 Guarding Manuscript Pages.....	168
6.5.1.3 Retouching	168
6.5.1.4 Resizing	168
6.5.1.5 Collation of Manuscript Pages.....	169
6.5.1.6 Sewing Manuscript Pages and Rebinding	169
6.5.1.7 Housing.....	170
6.6 Conclusions	174
6.7 Recommendations	176
BIBLIOGRAPHY.....	178
APPENDIX 1	182
APPENDIX 2	186
APPENDIX 3	202
APPENDIX 4	205
APPENDIX 5	209

LIST OF TABLES

<u>Table No.</u>		<u>Page No.</u>
1.1	Literature Review Gap	3
2.1	Insects frequently found on paper material	27
2.2	Types of common stains and its recommended solvent	37
3.1	Sample distributions	44
3.2	Sample Collections Measures	45
4.1	List of 25 selected malay manuscripts from IAMM	50
4.2	List of 10 selected malay manuscripts from National Library Malaysia	51
4.3	Sample of cover types found	54
4.4	Deteriorations on 25 malay manuscripts from IAMM	69
4.5	Deteriorations on 10 malay manuscripts from National Library Malaysia	72
4.6	Accumulative figures	73
5.1	Number of manuscripts and their overall conditions	75

LIST OF FIGURES

<u>Figure No.</u>		<u>Page No.</u>
2.1	An exquisite illuminated Malay Qur'an. Source: Gallop (2013)	12
2.2	Sample of floral, geometric and calligraphic motifs	12
2.3	Illustration of Malay manuscript layout	13
2.4	Sample of catchword on Malay manuscript	14
2.5	The Migration Of Paper Technology	16
2.6	Sample of Malay manuscript on cream coloured paper	17
2.7	Sample of Red and Black Ink used	19
2.8	Sample Of Textile Cover from 19 th century	20
2.9	Malay manuscript eaten by termites	22
2.10	The Deterioration Factors Towards Manuscripts	26
2.11	A sample of the foxed hemp paper	29
3.1	Flow of Research	44
3.2	Data Collection process	44
4.1	1998.1.16 (sample-IAMM)	53
4.2	1998.1.94 (sample-IAMM)	53
4.3	1998.1.250 (sample-IAMM)	54
4.4	1998.1.2943 (sample-IAMM)	54
4.5	1998.1.70 (sample-IAMM)	55
4.6	1998.1.178 (sample-IAMM)	55
4.7	1998.1.190 (sample-IAMM)	56

4.8	1998.1.3577(sample-IAMM)	56
4.9	1998.1.3645(sample-IAMM)	56
4.10	1998.1.270(sample-IAMM)	57
4.11	1998.1.906(sample-IAMM)	57
4.12	1998.1.16(sample-IAMM)	58
4.13	1998.1.173(sample-IAMM)	58
4.14	1998.1.3330(sample-IAMM) iron gall ink	58
4.15	1998.1.3645(sample-IAMM)	59
4.16	1998.1.3632(sample-IAMM)	59
4.17	1998.1.3577(sample-IAMM)	60
4.18	1998.1.906(sample-IAMM)	60
4.19	1998.1.2943 (sample taken from microscopic magnification of 100x by using optical microscope)	61
4.20	1998.1.173 (sample-IAMM)	61
4.21	1998.1.14 (sample of machine made paper)	62
4.22	Shield-like with a crescent moon in the center	63
4.23	3 crescents moon that is decreasing in size	63
4.24	An elephant as watermark	64
4.25	Crowned lion with sword in crowned medallion	64
4.26	Sample of Naskh script	65
4.27	Sample of Naskh script	65
4.28	Sample 1 of catchword	66
4.29	Sample 2 of catchword	66
4.30	Border with black and red ink	67
4.31	Border with red ink only	68

4.32	Sample of decorative border	68
4.33	Sample of decorative border on Al-Quran manuscript	69
5.1	Percentage on Overall Condition for 35 Malay Manuscripts	77
5.2	Percentage on Deterioration factor	78
5.3	Sample (1998.1.173/IAMM) of dust and dirt deposition caused abrasion and darkening on the surface	80
5.4	1998.1.3645 dust and dirt accumulated at the folds	81
5.5	1998.1.3645; eaten by termites	81
5.6	1998.1.585; termites' tunnel	82
5.7	MSS 3185; Dead termite found with mud stain	82
5.8	Silverfish holes	83
5.9	1998.1.584: eaten by cockroaches	83
5.10	1998.1.113; holes eaten by bookworm	84
5.11	Bleeding of red ink	84
5.12	Bleeding characteristic	85
5.13	1998.1.173: smudging of black ink	85
5.14	1998.1.113: water stains occurred around the edges	86
5.15	MSS 3185: water stains occurred at the top and bottom of the manuscript	87
5.16	1998.1.70; creases and folded corners	87
5.17	MSS 4160; tears found on the manuscript	88
5.18	MSS 3094; missing portion	88
5.19	MSS 4061; loose sheets	89
5.20	MSS 3167: Darkening of the paper	89
5.21	1998.1.70: discolouration on some portion of the paper	90

5.22	1998.1.3341; fading of red ink	90
5.23	1998.1.3175: blue ink stains found	91
5.24	MSS 3105: blue ink found	91
5.25	Sample of adhesive stains on MSS 3097	92
5.26	Sample of adhesive stains on 1998.1. 3632	92
5.27	Sample of adhesive stains on 1998.1.3632	93
5.28	Sample of adhesive stains on MSS 3286	93
5.29	MSS 4061: fungus presence at the lower part of the manuscript	94
5.30	1998.1.2774: fungus presence at the lower part of the manuscript	94
5.31	MSS 3167; rough edges	95
5.32	1998.1.3341; trimmed edges	95
5.33	1998.1.3175; foxing found on some part of the manuscript	96
5.34	MSS 3105; foxing found on the manuscript	96
5.35	MSS 4061; brittleness due to water penetration	97
5.36	1998.1.190; brittleness due to ink corrosion	97
5.37	1998.1.3645; badly distorted	98
5.38	MSS 4061; minor warping at the lower part of the manuscript	98
5.39	Sample of white powdery deposition	99
5.40	1998.1.2943; rust stain from paper staple	99
5.41	MSS 4061; Dead termite	100
5.42	MSS 4061; dead beetle	100
5.43	Dead mosquito	101
5.44	1998.1.70; discolouration around the text	102

5.45	1998.1.178; charring	102
5.46	1998.1.3330; loss of text lines	102
5.47	1998.1.3330; different reaction of iron gall ink on one manuscript	103
5.48	Overall manuscript	104
5.49	Wood Cover	105
5.50	Textile cover	106
5.51	Watermark of 3 crescent moon decreasing in size	106
5.52	Highlighted words by using red ink	107
5.53	Types of pigment found on the decorative first page	107
5.54	Illustration on marginal area and text lines	108
5.55	Catchword found on the manuscript	108
5.56	Illumination pages found on several pages	109
5.57	Sample of verse mark	109
5.58	Translations in Malay Language in jawi script were written in diagonal	110
5.59	View of the manuscript cover with water stains patches, scratches, soil spots and abrasions	111
5.60	Tears on the joint due to wear and tear	111
5.61	Minor warping due to fluctuation of temperature and humidity	112
5.62	Adhesive stains found on the wood cover	112
5.63	Missing portion most likely due to wear and tear	113
5.64	Burn spot	113
5.65	Black spots found on the wood cover	114
5.66	Textile cover condition; Missing portion	115

5.67	Insect holes	115
5.68	Dust and dirt deposition	116
5.69	Creases and folds on the textile cover	116
5.70	Discolouration on the textile	117
5.71	Overall view of the manuscript front page	118
5.72	This page is badly damaged by tears, folds and missing portions	118
5.73	Minor warping due to water penetration	119
5.74	Newly attached paper	119
5.75	Old repair	120
5.76	Missing portion due to pigment decay	120
5.77	Smudges of red ink all around the two pages	121
5.78	Smudges of black ink	121
5.79	Dust and dirt deposition in between pages	122
5.80	Sample Collection Manuscript titled Hidayah Al-Salikin	123
5.81	Front cover of the manuscript	124
5.82	Cover is not attached to the manuscript	125
5.83	Smooth edges	125
5.84	Highlighted word using red ink	126
5.85	Catchword found at the lower left of every alternate pages	126
5.86	Commentaries / additional notes written above the text	127
5.87	Illustration on marginal area and text lines	127
5.88	Sample image of marginal area and text lines	128
5.89	Mould stain and eaten by insect most likely booklice	129
5.90	Abrasion on the surface	129

5.91	Cover experiencing warping	130
5.92	Cracks found on the cover	130
5.93	Dust and dirt deposition and Discolouration	131
5.94	Loss of portion on the cover	131
5.95	Water stains visible on both sides	132
5.96	The affected area became brittle	132
5.97	Missing portion due to weaken paper	133
5.98	Loose sheets of paper	133
5.99	Brownish spots most likely due to mould stains	134
5.100	Reddish area which only found on water affected area most probably due to fungus stains	134
5.101	Stuck folios due to dampness from water penetration	135
5.102	Dead termite found	136
5.103	Dead beetle found	136
5.104	Dead moth found	137
5.105	Dead ant found	137
5.106	Tunnels created by termites	137
5.107	Folded corner	138
5.108	Dust and dirt found in between pages	138
5.109	Dust and dirt deposition embedded on the manuscript edges which darkens the pages	139
6.1	Cotton gloves	144
6.2	Sample of manuscript cradle	145
6.3	Position of the manuscript on the cradle	145
6.4	Sample of trolley	146

6.5	Sample of manuscript shelves	147
6.6	Sample on storing an oversized manuscript	147
6.7	Standardized boxes	148
6.8	Acidity test	150
6.9	Sample of blotting paper	150
6.10	Sample of vacuum aspirator	151
6.11	Removal of old repair	153
6.12	Soft horse hair brush	154
6.13	Dusting the manuscript by using brush	154
6.14	Sample of soft cleaner eraser	155
6.15	Remove crumbs by using cleaning pad	155
6.16	De-acidification process by using brush	158
6.17	De- acidified manuscript is placed in between blotters	158
6.18	Sample of fume chamber	159
6.19	Manuscript placed under wrapped brick to flatten	160
6.20	Manuscript placed under paper weight	160
6.21	100% Kozo Japanese paper	162
6.22	100% Kozo Japanese tissue	162
6.23	Tracing the hole shape on Japanese paper	164
6.24	Tear mending paper	165
6.25	Starch paste by using brush	165
6.26	Placing the mending paper by using tweezers	166
6.27	Run through the bone folder to secure it	166
6.28	Lead shot sealed in polyethylene tubing and covered with an unbleached, un-sized cotton "sock"	167

6.29	Phase box	171
6.30	Drop-spine box	171

CHAPTER 1

INTRODUCTION

1.1 GENERAL BACKGROUND

According to Pustaka Digital Manuskrip Melayu (2008), Malay manuscripts are handwritten documents. It was found dated as early as 15th century. However, during the 18th and 19th centuries, more and more manuscripts were written, and thousands of these are still present. Malay manuscripts are invaluable documentary records of the past, which must be preserved because they are irreplaceable. These handwritten documents reflect the rich cultural heritage, and documentation of the high intellectual accomplishments of the Malays. According to Ming (1992), our knowledge of written traditional Malay literature depends largely on the Malay manuscripts that have been copied and collected particularly in the 19th century. The vast majority of them are written on paper, in ink, using the Arabic- Jawi script. They are to be found mainly in Indonesia, Malaysia and those countries of Western Europe such as United Kingdom and Netherland, which formerly had connections with the East. At the present time there is not a great deal of interest in these manuscripts, either in the Malay-speaking countries or amongst foreign scholars working on the region (Ming, 1987). The fact remains that the data locked up in them offer an abundance of materials which some are in good conditions and some are in danger of falling apart on account of a combination of factors. The importance of Malay manuscripts as one of the cultural heritage need to be saved and analysed before it deteriorated (Baba, Zawiyah, 2002). UNESCO has launched a campaign called “Memory of the World” in 1992 and has declared and recognized manuscripts as one of the cultural documentation. It is an

awareness program for every country to give full attention to safeguard and preserve the documentary heritage of humanity against neglect, the ravages of time and climatic conditions, and to the extent of deliberate destruction for future generations. However, not many scholars have conducted studies on problems faced by Malay Manuscripts.

1.2 PROBLEM STATEMENT

There is a lack of studies on the problems faced by Malay Manuscripts such as environmental and biological factors that causes deteriorations. Many scholars mainly emphasized on the characteristics of Malay Manuscripts and the background history. However, there is a big gap and lack of research towards the deteriorations of Malay Manuscripts (table 1.1). Even though there are some researchers mentioned in their research on the problems of Malay Manuscript, however, it is only basic and general information was given. There is also lack of awareness among Malaysians on the importance of preserving Malay manuscripts due to the lack of interest in old literature (Siti, 2010). Most Malay manuscripts were neglected and kept as personal collections in poor facilities such as untreated shelves, poor storage and dust and dirt environment. These factors lead to the loss of cultural property and identity through physical deteriorations where they are poorly damaged and could not be saved for future use.

Table 1.1:
Literature Review Gap

Literature	Findings				
	Background history	Cataloging	Characteristics	Problems	Conservation & Preservation
Russell Jones (1999)(1998) (1993)(1988) (1986)(1974)	✓	✓	✓		
Ding Choo Ming (1987) (1992)	✓	✓	✓	✓	
Siti Hawa (2010)	✓		✓	✓	
Annabel Teh Gallop (2007)(2006) (2005)(2003) (2002)(1998)	✓	✓	✓	✓	
IAMM (2008) (2009)	✓		✓		✓
Wan Ali Wan Mamat (1986)(1988) (1993)	✓	✓	✓	✓	✓
Rajabi Razak & Idris Trevathan (2010)	✓		✓		
Rene Teygeler (2001)				✓	
National Library Malaysia (2002)		✓		✓	
Mariani (2002)	✓	✓		✓	

1.3 RESEARCH AIMS

To have a better understanding about the deterioration factors that are commonly faced by Malay manuscripts and to establish recommendations for the conservation and restoration of 19th Century Malay Peninsula manuscripts.