



REDEFINING ENDOGENOUS BUGIS LIMAS HOUSES  
IN CONTEMPORARY JOHOR

BY

LIYANA MAHFUZAH MOHD FOR

A thesis submitted in fulfilment of the requirement for the  
degree of Masters of Science in Built Environment

Kulliyyah of Architecture and Environmental Design

APRIL 2018

## ABSTRACT

This study views endogenous architecture as the intrinsic and intricate values of culture and tradition derived from the physical appearance of a particular traditional dwelling. There have been immense effort and appreciation given to preserve the endogenous principles of heritage dwellings. However, unfavourable perceptions towards the effort occur due to lack of awareness of the existence of the invaluable elements. If such attitude persists, the endogenous elements will eventually be forgotten, and their viability to be integrated into modern architecture can never be explored or understood. This study hypothesises that the endogenous elements possess the formulae to redefine and enhance the genuine meanings of a Malaysian architectural identity through holistic perception of both implicit and explicit principles of architectural design and implementation. Thus, this study is aimed at contemplating and highlighting the implicit orders of endogenous elements which exist in the traditional Bugis Limas houses in Johor. The architecture of the particular dwellings is predominantly influenced by Bugis ethnic community which originated from Sulawesi due to migration. Data collection in this study involved a case study and interviews with relevant authorities and individuals. Case study models were documented in Kukup, Benut and Pekan Nenas, as they have demonstrated evidence of the preservation of endogenous principles throughout the ages. Based on the evidence, the attributes of the most influential endogenous elements that portray the archetypical identities of a traditional house were analysed. This study revealed that cultural, religious and behavioural aspects are common endogenous denominators of residential architecture. However, religious aspect has been identified as the most dominant factor. Since the Bugis are known as devoted Muslims, the religious aspect of their dwellings is directly linked to Islam. The aspect is still hitherto preserved because of its viability and practicality which are in line with the current social coherence in Johor. The analysis of the findings proved that the implicit aspects may serve as a fundamental guide in the construction industry with regard to policy making, design strategies and consciousness of traditional Malay endogenous manifestation in the built environment. The endogenous principles should be sustained for present and future generations to reconnect with the cultural identity of their ancestors. In addition, both functional and intrinsic elements of endogenous traditional architecture may be adopted to portray archetypical characteristics or identity of any Malaysian buildings.

## ملخص البحث

تنظر هذه الدراسة إلى البنية الداخلية باعتبارها القيم الجوهرية والمعقدة للثقافة والتقاليد المستمدة من المظهر المادي لمسكن تقليدي معين. كان هناك جهد وتقدير هائلان للحفاظ على المبادئ الداخلية للمساكن التراثية. ومع ذلك ، ظهرت تصورات غير مؤاتية تجاه الجهد بسبب نقص الوعي بوجود هذه العناصر القيمة. إذا استمر هذا الموقف، فإن العناصر الداخلية ستنسى في نهاية المطاف، ولا يمكن تمتلك الذاتية العناصر أن الدراسة هذه استكشاف أو فهم قابليتها للاندماج في العمارة الحديثة. تفترض للمبادئ كلي إدراك خلال من المألوية المعمارية للهوية الحقيقي المعنى وتعزيز تعريف لإعادة الصيغ الأوامر وإبراز استيعاب إلى الدراسة هذه وتنفيذه. لذا، تهدف المعماري للتصميم والصريحة الضمنية (جوهور. في التقليدية) Bugis Limas بوغيس ليماس (منازل في الموجودة الداخلية للعناصر الضمنية الذي يأتي من Bugis) وتأثر التصميم المعماري للمساكن المعينة في الغالب بالمجتمع العرقي بوغيس (السلطات مع ومقابلات حالة دراسة الدراسة هذه في البيانات جمع بسبب الهجرة. شمل سولاويسي (Benut) (بينوت)، (Kukup) (كوكوف) في لحالة دراسة نماذج توثيق وتم المعنيين، والأفراد المحلية العصور. طوال الذاتية المبادئ على الحفاظ على تدليلاً أظهر لأنها)، (Pekan Nenas) (فيكان نناس) للمنزل النموذجية الهويات تصور التي تأثيراً الأكثر الداخلية العناصر سمات تحليل تم الأدلة، إلى واستناداً مشتركة داخلية قواسم هي والسلوكية والدينية الثقافية الجوانب أن الدراسة هذه كشفت التقليدي. أن هيمنة. وبما أكثر كعامل الديني الجانب حديد تمت فقد ذلك، ومع السكنية. المعمارية للهندسة بالإسلام. مباشرة يرتبط مساكنهم من الديني الجانب فإن المخلصين، بالمسلمين معروف مجتمع بوغيس التماسك مع يتماشى حيث إنه عمليته هو صلاحيت بسبب محفوظاً الآن حتى الجانب هذا لا يزال في أساسي دليل بمثابة تكون قد الضمنية الجوانب أن لنتائج تحليلاً أثبت جوهور. في الحالي الاجتماعي للمألوية الداخلي لتظاهر والوعيل التصميم واستراتيجيات السياسات، بصنع يتعلق فيما البناء صناعة التواصل لإعادة والمستقبلية الحالية للأجيال الداخلية المبادئ على الحفاظ يجب المبنية. البيئة في التقليدية والداخلية الوظيفية العناصر من كل اعتماد يمكن ذلك، إلى إضافة لأسلافهم. الثقافية الهوية مع ماليزية. مباني أي هوية أو نموذجية خصائص لتصوير الداخلية التقليدية للعمارة

## 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)

.....  
Aida Kesuma Azmin  
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 Master of Science (Built Environment)

.....  
Noor Hanita Abdul Majid  
Internal Examiner

.....  
Nangkula Utaberta  
External Examiner

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

.....  
Assoc. Prof. Dr. Noor Hanita  
Abdul Majid  
Head, Department of Architecture

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)

.....  
Abdul Razak Sopian  
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.

Liyana Mahfuzah Mohd For

Signature .....

Date .....

**INTERNATIONAL ISLAMIC UNIVERSITY MALAYSIA**

**INTERNATIONAL ISLAMIC UNIVERSITY MALAYSIA  
DECLARATION OF COPYRIGHT AND AFFIRMATION OF  
FAIR USE OF UNPUBLISHED RESEARCH**

**THE IMPACT OF MOBILE INTERFACE DESIGN ON  
INFORMATION QUALITY OF M-GOVERNMENT SITES**

I declare that the copyright holders of this thesis are jointly owned by the student and IIUM.

Copyright © 2017 Liyana Mahfuzah Mohd For and International Islamic University Malaysia. All rights reserved.

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 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 retrieved system and supply copies of this unpublished research if requested by other universities and research libraries.

By signing this form, I acknowledged that I have read and understand the IIUM Intellectual Property Right and Commercialization policy.

Affirmed by Liyana Mahfuzah Mohd For

.....

Signature

.....

Date

*This thesis is dedicated to my husband Muhammad Aizuddin, and my lovely children Muhammad Yusoffe Danial and Mishall Ameena Soleha; who have been patient and kept me going strong.*

*Alhamdulillah*

## ACKNOWLEDGEMENTS

All glory is due to Allah, the Almighty, whose Grace and Mercy have been with me throughout the duration of my programme. Although, it has been challenging, His Mercy and Blessings on me ease the staggering task of completing this master's thesis.

Firstly, it is my utmost pleasure to dedicate this work to my dear parents, my family, and my in-laws who granted me the gift of their unwavering belief in my ability to accomplish this goal: thank you for your support and patience.

I wish to express my appreciation and thanks to the members of Yayasan Warisan Johor, Pusat Kajian Alam Bina Melayu from Universiti Teknologi Malaysia, HL Reka Sdn. Bhd and Cahaya Jauhar. Thank you for the effort, support and time spent.

I am most indebted to my supervisor, Asst. Prof. Dr Aida Kesuma Azmin, whose enduring disposition, kindness, promptitude, thoroughness and friendship have facilitated the successful completion of my work. I put on record and appreciate her comments, suggestions and inspiring queries and tazkirah which have considerably inspired this thesis. Her brilliant grasp of our aim and the content of this work led to her insightful comments, suggestions and queries which helped me a great deal, and for that, I will be forever grateful to her.

Lastly, my gratitude goes to my beloved husband. The support and cooperation he extended to me is in no doubt a boost that contributed to the outcome of this work. To my lovely children; for their patience and understanding, Insya Allah.

Once again, we glorify Allah for His endless mercy on us, which enables us to successfully complete this thesis writing. Alhamdulillah.

# TABLE OF CONTENTS

Abstract .....	ii
Abstract in Arabic .....	iii
Approval page .....	iv
Declaration .....	vi
Copyright .....	vii
Dedication .....	vii
Acknowledgements .....	ix
List of Tables .....	xiv
List of Figures .....	xv
<b>CHAPTER ONE: INTRODUCTION .....</b>	<b>1</b>
1.1 Research Problem .....	1
1.2 Research Objectives.....	2
1.3 Research Questions.....	2
1.4 Research Significance.....	3
1.5 Research Scope and Limitation .....	3
1.6 Research Methodology .....	6
1.7 Research Structure .....	7
1.8 Summary.....	8
<b>CHAPTER TWO: RESEARCH BACKGROUND .....</b>	<b>9</b>
2.1 Introduction.....	9
2.1.1 Culture.....	15
2.1.1.1 Culture Surface and Culture Core .....	15
2.2 Its historical Ethnic Groups .....	17
2.2.1 The Three Ethnics .....	17
2.2.1.1 The Javanese Community.....	18
2.2.1.2 The Banjar Community .....	24
2.2.1.3 The Bugis Community.....	30
2.2.2 Summary .....	34
2.3 Traditional Johor Limas Houses .....	34
2.3.1 Introduction.....	34
2.3.2 The origins of the Traditional Johor Limas House .....	35
2.3.3 The Meaning of ‘Limas’ .....	37
2.3.4 The Roof Design of a Traditional Limas House .....	38
2.3.4.1 Bumbung Perabung Lima.....	38
2.3.4.2 Bumbung Limas Bertebar Layar .....	39
2.3.5 Houses Raised on Stilts.....	41
2.3.6 Design and Transformation.....	41
2.3.7 Summary .....	46
2.4 Bugis As the Most Influential ethnic community towards Traditional Johor Limas Houses .....	47
2.4.1 Introduction.....	47
2.4.2 History of the Bugis Arrival in Johor.....	47
2.4.3 Summary .....	51

2.5 The Traditional Bugis Houses .....	51
2.5.1 The Intangible Aspects (Internal - <i>Batin</i> ) .....	53
2.5.1.1 Culture .....	55
2.5.1.2 Religious Aspects .....	62
2.5.1.3 Behavioural Aspects .....	69
2.5.1.4 Summary for the Internal-Batin (Intangible).....	70
2.5.2 The Tangible Aspects (External- <i>Zahir</i> ) .....	71
2.5.2.1 The Zoning and Planning of the Traditional Bugis Houses	
.....	71
2.5.2.2 The Roof Formation .....	76
2.5.2.3 The Formation of the Staircase.....	77
2.5.2.4 Ornamental Design and Carvings.....	78
2.5.2.5 Cosmological influence of the Traditional Bugis Limas	
House's Form .....	80
2.5.2.6 Summary of the Tangible Aspects.....	81
2.6 Endogenous and Exogenous .....	82
2.6.1 Defining Endogenous in relation to architecture .....	84
2.6.2 Defining Exogenous in relation to architecture .....	85
2.6.3 Summary for Endogenous and Exogenous .....	86
2.7 Summary .....	87

**CHAPTER THREE: CASE STUDIES, EXPERT INTERVIEWS AND FINDINGS .....89**

3.1 Introduction.....	89
3.1.1 Research Methodology: A Descriptive Comparative Analysis ....	89
3.1.2 The Case Studies .....	91
3.2 Expert Interviews.....	94
3.2.1 Introduction.....	94
3.2.2 The History of Johor Limas Houses .....	95
3.2.3 Meaning behind 'Limas' .....	97
3.2.4 The concept of a House in General for the Malay people .....	99
3.2.5 Distinct differences of a Limas House from one area to	
another .....	100
3.2.6 Are the Limas Houses been influenced by such colonial	
activities? .....	102
3.2.7 The explanation of the planning of the Limas Houses itself.....	103
3.2.8 The Papan Manis and Bunga Banji Explanation .....	103
3.3 Case Study A .....	105
3.3.1 Rumah Haji Mahmood bin Haji. Abd. Kadir.....	105
3.3.1.1 – Introduction to Haji Mahmood bin Haji. Abd. Kadir ....	108
3.3.1.2 – Case Study Analysis .....	113
3.3.1.3 – Endogenous Aspects found .....	113
3.3.2 Rumah Haji Md. Noor bin Daeng Talibah.....	127
3.3.2.1 Introduction .....	130
3.3.2.2 Case Study Analysis .....	132
3.3.2.3 Endogenous Aspects Found.....	132
3.4 Case Study B .....	144
3.4.1 Rumah Daeng Hadadek .....	144
3.4.1.1 Introduction .....	146

3.4.1.2 Analysis of the Case Study.....	151
3.4.1.3 Endogenous Aspects Found.....	151
3.4.2 Rumah Lata Seri Pulai .....	167
3.4.2.1 Introduction .....	168
3.4.2.2 Analysis of the Case Study.....	175
3.4.2.3 Endogenous Aspects Found.....	176
3.5 Case Studies Preliminary findings.....	186
3.6 Summary.....	188

**CHAPTER FOUR: DATA ANALYSIS.....189**

4.1 Introduction.....	189
4.2 Analysis of Expert Interview .....	189
4.2.1 The Meaning behind ‘Limas’ .....	191
4.2.2 The Distinct differences of a Johor Limas House from one area to another .....	195
4.2.3 The General Planning of the Traditional Johor Limas House .....	199
4.3 A PHYSICAL ( <i>ZAHIR</i> ) Architectural Analysis.....	204
4.3.1 The Gradient of Spaces .....	204
4.3.2 Scale and Proportion .....	209
4.3.3 <i>Serambi</i> as an Introductory Space (Entrance).....	213
4.3.4 <i>Anjung</i> : A Space of Formality .....	220
4.3.5 <i>Rumah Ibu</i> as a Common Space .....	241
4.3.6 Rumah Dapur .....	247
4.3.7 Synthesis .....	259
4.4 Analysis of the Endogenous ( <i>Batin</i> ) Aspects Found.....	259
4.4.1 Cultural.....	259
4.4.1.1 Social .....	259
4.4.1.2 Belief .....	260
4.4.2 Religious aspects.....	260
4.4.3 Behavioural aspects.....	260
4.5 Case Studies Analysis.....	261
4.5.1 Cultural.....	261
4.5.1.1 Social .....	261
4.5.1.2 Beliefs .....	269
4.5.2 Religious .....	279
4.5.2.1 Rumah Haji Mahmood bin Haji. Abd. Kadir .....	280
4.5.2.2 Tuan Haji Md Noor bin Daeng Telibah.....	283
4.5.2.3 Rumah Daeng Hadadek .....	285
4.5.2.4 The Lata Seri Pulai House .....	287
4.5.2.5 Conclusion .....	288
4.5.3 Behavioural .....	291
4.5.3.1 Rumah Haji Mahmood bin Haji. Abd. Kadir .....	292
4.5.3.2 Tuan Haji Md Noor bin Daeng Telibah.....	297
4.5.3.3 Rumah Daeng Hadadek .....	301
4.5.3.4 The Lata Seri Pulai House .....	304
4.5.3.5 Conclusion .....	305
4.5.4 Synthesis .....	306
4.6 Chapter Summary .....	313

<b>CHAPTER FIVE: CONCLUSION AND RECOMMENDATIONS .....</b>	<b>314</b>
5.1 Introduction.....	314
5.2 Thesis Conclusion.....	314
5.3 Future Research OPPORTUNITIES .....	324
5.4 Chapter Summary .....	324
<b>REFERENCES.....</b>	<b>326</b>
<b>APENDIX .....</b>	<b>330</b>

## LIST OF TABLE

Table 2.1	Shows the number of Javanese population in the Malay Land from 1911 to 1941	24
Table 2.2. 2	The inflation years of 1920's to the 1930's, majority of the Banjar people migrated away from the areas of Johor	30
Table 2.6. 1	The variables extracted for the future analysis of this study	82
Table 2.6. 2	Summarises the Bugis endogenous aspects that will be highlighted through out this thesis	82
Table 3.5.1	The primary synthesis on the endogenous variables that were found for all four case studies	188
Table 4.2.4.1	Synthesis of the interview with cross reference to Chapter Two	201
Table 4.5.1.1	The houses that apply the endogenous aspects of the Bugis Cultural (Social)	269
Table 4.5.1.2	The houses that apply the endogenous aspects of 'Cultural'	278
Table 4.5.4.1	The houses that apply the endogenous aspects of 'Belief'	289
Table 4.5.4. 2	The houses that apply the endogenous aspects of 'Behavioural'	306
Table 4.5.4. 3	Synthesis of the overall case studies against the variables	304
Table 4.5.4. 4	Synthesis of the overall case studies against the variables with images	305
Table 5.2. 1	The dominant endogenous elements (Cultural, Religious, and Belief) of the traditional Bugis Limas Houses	316

## LIST OF FIGURES

Figure 1.5. 1	Time frame that is focused – Research Gap	5
Figure 2.1. 1	The process of appreciating urban heritage	15
Figure 2.2.1.1	Indicates the location of Java Island and the emigrants and their journey in the direction towards the Malay Land	19
Figure 2.2.1. 2	Javanese labours accompanied by a Dutch officer during the colonial period	20
Figure 2.2.1. 3	Syed Mohamed bin Ahmed Alsagoff was born in 1836 in Singapore.	21
Figure 2.2.1.4	The four main areas of the Javanese Community	23
Figure 2.2.1. 5	Shows the location of Kalimantan and the direction of Banjar community migration to the Malay Land	25
Figure 2.2.1. 6	In 1599, Jacob van Neck’s reached the ‘Spice Islands’ of Maluku (Source: Youtube, 2017)	26
Figure 2.2.1. 7	In 1600, the Dutch government followed suit sponsoring the creation of a single “United East Indies Company (VOC)	27
Figure 2.2.1. 8	The United East Indies Company (VOC) had granted monopoly over the Asian trade	27
Figure 2.2.1. 9	The districts of Johor with the location of the Banjar community settlements.	28
Figure 2.2.1. 10	The location of the Banjar community settlements in the Malay Land	29
Figure 2.2.1. 11	The Sulawesi Island and the direction of the Bugis community migration to the Malay Land	31
Figure 2.2.1. 12	The Bugis community enjoyed the sailing activities, since travelling abroad has been the spirit and soul of their seafaring identity	32

Figure 2.2.1. 13	A bustling Dutch harbor scene t harbour scene, at Dordrecht, Netherlands, leaving for their Nusantara voyage in 1651, in an oil painting by Simon Jacobsz	32
Figure 2.3.2. 1	The areas where the Bugis community are mostly found until present	36
Figure 2.3.2. 2	Rumah Limas, Benut, Johor	36
Figure 2.3.2.3	Rumah Perak	37
Figure 2.3.4. 1	Rumah Taribak Haji Nesah (Pontian, 1972) owned by a Bugis family with its original rumbia roofing before renovations were made (demolished: 2014)	39
Figure 2.3.4. 2	Rumah Taribak Haji Nesah after modification was made in 2008	40
Figure 2.3.4. 3	Rumah Daeng Hadadek displaying the gable or ‘Tebar layar’	40
Figure 2.3.4. 4	Rumah Haji Mahmood bin Haji. Abd. Kadir displaying the gable or ‘Tebar layar’	41
Figure 2.3.4. 5	Floor Plan of Rumah Hj. Elias B. Sedao which displays a traditional Johor Limas House plan layout	43
Figure 2.3.4. 6	Right elevation of Rumah Hj. Elias B. Sedao	43
Figure 2.3.4. 7	Section Y-Y of Rumah Hj. Elias B. Sedao	44
Figure 2.3.4. 8	The five main areas of a traditional Johor Limas House and the presence of the ‘Anjung’ for Rumah Daeng Hadadek, Kukup Pontian	45
Figure 2.3.4. 9	Rumah Haji Mahmood which is one of the case studies, displaying the the ‘Pagar Musang’	45
Figure 2.3.4. 10	A traditional Johor Limas house owned by a Javanese family located along the main road to Benut displaying the Pagar Musang element in good condition which is also known as ‘Rumah Berbaju Kurung’.	46
Figure 2.5.1. 1	Theoretical Framework of how the endogenous Bugis tradition will result in the final physical manifestation product	54
Figure 2.5.1. 2	Framework of the manifestation of the endogenous identity of the Bugis tradition	57

Figure 2.5.2 1	The arrangement of the three Lontang (spaces)	72
Figure 2.5.2 2	Plan of Ngati's house, Makasar, Sulawesi, Indonesia.	73
Figure 2.5.2 3	Plan of Haji Kunok's House, Johor	75
Figure 2.5.2 4	Roof gable (Timpa Laja) examples	77
Figure 2.5.2 5	Wooden staircases, demonstrating odd numbered treads.	78
Figure 2.5.2 6	Bunga Parengereng floral motifs mainly found in the curvilinear fretworks throughout the traditional Johor Bugis Limas House.	79
Figure 2.5.2 7	The dragon, or snake ornamentation located at the roof's ridge of a traditional Bugis house in Sulawesi	79
Figure 2.5.2 8	A geometric fretwork pattern sample from Rumah Haji Mahmood, Benut, Pontian	80
Figure 2.5.2 9.	Section Y-Y of Rumah Hj. Elias B. Sedao confirming the three-layered traditional Johor Bugis Limas House formation	81
Figure 3.2.1. 1	Tuan Haji Dzulkanain bin Asmawi, Head of Literature and History Department	95
Figure 3.2.2. 1	The interview that was conducted with Tuan Haji Dzulkarnain	96
Figure 3.2.3. 1	An example of a traditional Johor Limas House which portrays its five ridged roof	98
Figure 3.2.5. 1	A traditional Johor Limas house located along the main road to Benut displaying the Pagar Musang element in good condition which is also known as Rumah Berbaju Kurung	102
Figure 3.3.1. 1	The front entrance of Rumah Haji Mahmood bin Haji. Abd. Kadir that is located along the main road from Jalan Batu Pahat to Pontian	105
Figure 3.3.1. 3	An interview is done with Tuan Haji Mahmood bin Haji. Abd. Kadir's daughter herself, Puan Hajah Rokiah	107
Figure 3.3.1. 4	Tuan Haji Mahmood (left) father to Puan Hajah Rokiah	108

Figure 3.3.1. 5	‘Mampenrek Tojang’ where a new-born is placed above seven layers of cloth and whilst the Mabarzanji is chanted, the seven cloth is removed one at a time as a sign of welcoming the new-born to the world with good tidings	110
Figure 3.3.1. 6	The staircase leading towards the Serambi located at the main entrance of the house is that of similar to any traditional Johor Limas House which is normally located on the right side of the house	111
Figure 3.3.1. 7	The rear view of the house of Tuan Haji Mahmood	112
Figure 3.3.1. 8	The ‘Pagar Musang’ element of Rumah Haji Mahmood	112
Figure 3.3.1. 9	The addition to the original portion of the house that was made to cater the family members especially during festive season	112
Figure 3.3.1. 10	The gable of Rumah Tuan Haji Mahmood's house with its decorative fascia board and its Tunjuk Langit (beacon)	114
Figure 3.3.1. 11	Front portion of the external living area known as the Anjung which is normally present in a traditional Johor Limas house	114
Figure 3.3.1. 12	The various view of the full height windows that envelope the Anjung area of Rumah Tuan Haji Mahmood	115
Figure 3.3.1. 13	Area of segregation between the residents of the house and the guests	117
Figure 3.3.1. 14	Location of Tiang Seri	117
Figure 3.3.1. 15	The Tiang Seri located in the living room area alongside with the timber walls that are incorporated with various design of the fretworks permitting air flow	120
Figure 3.3.1. 16	The presence of fretwork designs above the walls that permit air flow and ventilation	121
Figure 3.3.1. 17	The iron balustrades made by the local iron monger in the area of Benut in the 1950’s	121
Figure 3.3.1. 18	The Belian timber used are still intact as the louvre elements of the window still functions as a sense of privacy for the members.	122

Figure 3.3.1. 19	Overall plan layout of Tuan Haji Mahmood’s house	123
Figure 3.3.1. 20	Front Elevation Rumah Haji Mahmood, Pontian	124
Figure 3.3.1. 21	Right Elevation Rumah Haji Mahmood, Pontian	124
Figure 3.3.1. 22	Left Elevation Rumah Haji Mahmood, Pontian	124
Figure 3.3.1. 23	Right Elevation of Rumah Haji Mahmood, Pontian	124
Figure 3.3.1. 24	The current condition of the Anjung area	125
Figure 3.3.1. 25.	Various views of the present condition of the Selang area after renovations were made	124
Figure 3.3.2. 1	The front view of Rumah Haji Md Noor bin Daeng Telibah	127
Figure 3.3.2. 2	Our visit to Rumah Haji Md Noor Daeng Telibah dated 24th January 2016	127
Figure 3.3.2. 3	Site Plan of Rumah Haji Md Noor located in the areas of Benut, Pontian Johor	128
Figure 3.3.2. 4	Tuan Haji Mohd Nor’s son, Andek Abdul Rahman (Right) with his mother (Tuan Haji Mohd Nor’s wife)	129
Figure 3.3.2. 5	(Right) Dr Husni Tandra who is the nephew of Tuan Haji Md Nor, present due to the family member’s wedding ceremony in Benut	130
Figure 3.3.2. 6	Tuan Haji Md Noor bin Telibah during his Haj performance in 1986	131
Figure 3.3.2. 7	The Side view of Rumah Haji Md Noor bin Daeng Telibah with the Serambi that underwent a minor renovation and enclosed the Serambi area	134
Figure 3.3.2. 8	The single –layered gable of the roof formation which displays the status of the family	134
Figure 3.3.2. 9	Overall plan layout of Rumah Haji Md. Nor	135
Figure 3.3.2. 10	The staircase leading up to the Serambi area	136
Figure 3.3.2. 11	The condition of the Rumah Dapur located on the lower level	136

Figure 3.3.2. 12	The external view of the wet kitchen catering for the students of the Tahfiz School	136
Figure 3.3.2. 13	The staircase from the Rumah Dapur leading towards the Rumah Ibu on the upper level	137
Figure 3.3.2. 14	The openings, fretwork and louvres used to emit light and maintain air ventilation	138
Figure 3.3.2. 15	The interior view of the Rumah Ibu where the Tiang Seri is located	139
Figure 3.3.2. 16	The view out from the Rumah Ibu, where Tiang Seri is located	139
Figure 3.3.2. 17	The present condition of the Pagar Musang	140
Figure 3.3.2. 18	The present condition of the timber walls	141
Figure 3.3.2. 19	The current condition of the Anjung area	141
Figure 3.3.2. 20	The design of the house is laid out in a hierarchical manner	143
Figure 3.4.1. 1	Shows the front portion of Rumah Daeng Hadadek where it underwent renovations as a new ‘facelift’ in 2011.	145
Figure 3.4.1. 2	Shows the original house of Daeng Hadadek built in 1935	145
Figure 3.4.1. 3	Location Plan of Rumah Daeng Hadadek bin Kafitang	146
Figure 3.4.1. 4	The present Masjid AS-Syaqirin as one of the landmarks of the area before arriving to the House of Daeng Hadadek along Jalan Besar Pontian	147
Figure 3.4.1. 5	Tanjung Piai which is the end of the mainland of the Asia continent	147
Figure 3.4.1. 6	Rumah Daeng Hadadek is known to the Johor State Government as the Memorial of Daeng Hadadek House with the name Sri Saleiwangeng.	148
Figure 3.4.1. 7	Encik Abdul Hadi Haji Ambok Ingtang explaining the background history of his late grandfather, Daeng Hadadek.	149
Figure 3.4.1. 8	Encik Abdul Hadi Haji Ambok Ingtang’s late grandfather, Daeng Hadadek bin Kafitang Daeng	150

	Wallingah	
Figure 3.4.1. 9	The floor level raised to portray a similarity with the traditional Bugis Houses in Sulawesi	152
Figure 3.4.1. 10	The original columns of Daeng Hadaddek bin Kafiteng's house built in 1935	152
Figure 3.4.1. 11	Weight of the column of the house are at 450kg each	153
Figure 3.4.1. 12	The various intricate carvings allowing the penetration of light and air	154
Figure 3.4.1. 13	View of the belian trusses that were exposed	154
Figure 3.4.1. 14	Antique furniture that were handed down from as early as 1700s	155
Figure 3.4.1. 15	Timber walls and curvilinear fretworks that enhanced the beauty of the walls	155
Figure 3.4.1. 16	The gable portraying three layers indicating the status of the owner of the house	157
Figure 3.4.1. 17	The gable located at the Anjung of the house	157
Figure 3.4.1. 18	Overall floor plan of Daeng Hadaddek's house	159
Figure 3.4.1. 19	The location of the Tiang Seri	162
Figure 3.4.1. 20	The Tiang Seri located in the Anjung are	162
Figure 3.4.1. 21	The various floral ornamental carvings located above the windows and the construction components	164
Figure 3.4.1. 22	The zonings of the public to the private spaces of Rumah Daeng Hadaddek	165
Figure 3.4.2. 1	Rumah Lata Seri Pulau owned by Puan Hajah Zuraini binti Haji Bachok	167
Figure 3.4.2. 2	The site location of Lata Seri Pulau	168
Figure 3.4.2. 3	The gateway entrance to Jalan Rezab 1, Kampung Melayu Raya	169
Figure 3.4.2. 4	One of the retail lots that was develop by Reene Moi and her husband.	169
Figure 3.4.2. 5	The view of the drop of point for the Lata Seri Pulau House	169

Figure 3.4.2. 6	The annex catering activities such as cooking and outdoor activities	170
Figure 3.4.2. 7	The main building includes four rooms and three toilets	171
Figure 3.4.2. 8	Puan. Hajah Zuraini Haji Bachok, the owner of Lata Seri Pulai House	171
Figure 3.4.2. 9	Puan. Hajah Zuraini Haji Bachok's artworks	173
Figure 3.4.2. 10	Concrete construction was chosen to ensure durability of the building structure.	174
Figure 3.4.2. 11	Wide span that made Renee Moi opt for modern technology	174
Figure 3.4.2. 12	The door panels carved by Elias Rahbani from ER Creative	175
Figure 3.4.2. 13	A reference scale to show the height of the Lata Seri Pulai House	177
Figure 3.4.2. 14	View of the main entrance of the main building	178
Figure 3.4.2. 15	The external facade of the rooms with its intricate carvings and its full-length window	178
Figure 3.4.2. 16	View of the height of one room (left). View towards one of the restrooms of (right)	179
Figure 3.4.2. 17	The existing curvilinear fretwork that ventilate the living room area	179
Figure 3.4.2. 18	The view of the main building and the annex	180
Figure 3.4.2. 19	The intricate floral carvings located throughout most of the wall panels and the fretwork of the windows	180
Figure 3.4.2. 20	View of the secondary entrance of the house	180
Figure 3.4.2. 21	The staircases leading towards the main entrance of the house	181
Figure 3.4.2. 22	The view of the exposed roofing tiles, the intricate carvings of the fretwork panels and the Peranakan designed tiles	181
Figure 3.4.2. 23	The view of the lake from the Waqaf area which catered activities such as canoeing	182

Figure 3.4.2. 24	The Waqaf area which is visible from any area of the seven acre land	182
Figure 3.4.2. 25	View towards the annex and main building from the Waqaf area	182
Figure 3.4.2. 26	View towards one of the verandas	183
Figure 3.4.2. 27	Rumah Reneei Moi which is elevated at 2.5 meters in height	183
Figure 3.4.2. 28	The intricate carvings of floral design of the bunga Parengreng located in various areas of the house	184
Figure 3.4.2. 29	the intricate floral carvings that were used throughout the house	185
Figure 3.4.2. 30	The ‘Papan manis’ or the fascia board	185
Figure 4.2.1. 1	Examples of Rumah Limas that were located in various areas of Benut, Pontian with their five ridged roof and their gables.	192
Figure 4.2.1. 2	Case Study A: Both houses adhered to the five ridge roof concept	194
Figure 4.2.1. 3	Case Study B: Both houses adhered to the five ridge roof concept in the modern era	194
Figure 4.2.2. 1	The height difference of the two houses may vary due to its location (above) Rumah Daeng Hadadek is located near the coastal areas of Kukup, (below) Rumah Haji Mohd Noor is located much further	195
Figure 4.2.2. 2	The carpentry works of the Bunga Banji located at the Pagar Musang of Rumah Haji Mahmood	193
Figure 4.2.2. 3	The Kolong area of Rumah Haji Mohd Noor dedicated for storage of farming and utility tools	197
Figure 4.2.2. 4	The intricate carpentry works of the fascia board of Rumah Daeng Hadadek decorated with the carvings of Bunga Cengkih	198
Figure 4.2.2. 5	Floral carpentry works located above the doors for Rumah Haji Mohd Noor	198
Figure 4.2.2. 6	A much simplified geometric fretworks located above the walls of Rumah Haji Mahmood.	198

Figure 4.3.1. 1	Case Study A: The gradient of spaces for Rumah Haji Mahmood, Benut, Pontian	206
Figure 4.3.1. 2	Case Study B: The gradient of spaces for Rumah Daeng Hadadek, Kukup, Pontian	207
Figure 4.3.1. 3	Case Study A: The gradient of spaces for Rumah Haji Mohd Nor, Benut (Source: Author)	208
Figure 4.3.2. 1	Case Study A: The two houses are elevated at a height of 1.2 meters	209
Figure 4.3.2. 2	The two houses are elevated at an average of 2.5 meters in height	210
Figure 4.3.2. 3	Scale and Proportion comparison of Rumah Hj Mahmood and Rumah Daeng Hadadek	211
Figure 4.3.2. 4	Scale and Proportion comparison of Rumah Hj Md Nor and Rumah Renee Moi	212
Figure 4.3.3. 1	Rumah Haji Mahmood the entrance of the house (serambi) is located in the main lines of approach to the site	213
Figure 4.3.3. 2	Rumah Daeng Hadadek the entrance of the house (serambi) is located in the main lines of approach to the site	213
Figure 4.3.3. 3	Rumah Haji Mohd Nor, the Serambi is located adjacent to the main lines of approach to the site.	214
Figure 4.3.3. 4	The exposed construction of the Serambi area	215
Figure 4.3.3. 5	The semi-enclosed space of the ‘Serambi’	215
Figure 4.3.3. 6	Case Study A: (Left: Rumah Haji Mahmood, Right: Rumah Haji Mohd Nor) The ceilings were not exposed creating a much intimate and humble entrance of the Serambi	216
Figure 4.3.3. 7	The odd number of treads that were applied in the staircase of Rumah Daeng Hadadek	217
Figure 4.3.3. 8	The odd number of treads that were applied in the staircase for Rumah Haji Mahmood	217
Figure 4.3.3. 9	A height comparative of the Serambi area between Rumah Hj Mahmood (Section) and Rumah Daeng Hadadek (Section)	218

Figure 4.3.3. 10	A height comparative of the Serambi area between Rumah Daeng Hadadek (Section) and Rumah HjMd Noor (Section)	219
Figure 4.3.4. 1	The distinct protrusion of the Anjung area of Rumah Daeng Hadadek	220
Figure 4.3.4. 2	The distinct protrusion of thr Anjung area of Rumah Haji Mahmood	221
Figure 4.3.4. 3	A close-up of the current condition of the facade of the Anjung	221
Figure 4.3.4. 4	The Anjung area of Rumah Haji Mohd Nor, which is not apparent as compared to Rumah Daeng Hadadek and Rumah Haji Mahmood	222
Figure 4.3.4. 5	The Anjung area of Rumah Daeng Hadadek	223
Figure 4.3.4. 6	The ceilings of the Anjung area are exposed	223
Figure 4.3.4. 7	(Left) View of the Anjung from the Serambi. (Right) the exposed ceiling of the Anjung area demonstrating its rafters and hip rafters.	224
Figure 4.3.4. 8	The ceilings of the Anjung of Rumah Haji Mahmood area were not exposed creating a sense of humbleness	225
Figure 4.3.4. 9	The lighting condition of the Anjung area	225
Figure 4.3.4. 10	The height relation of Rumah Rene Moi	226
Figure 4.3.4. 11	Semi-exposed ceiling creating a sense of grandness.	226
Figure 4.3.4. 12	The direction of the walls of the Case studies A were constructed vertically	228
Figure 4.3.4. 13	The direction of the walls of Rumah Deang Hadadek were constructed vertically (Left) Rumah Renee Moi applied the bevel technique (Right)	228
Figure 4.3.4. 14	The location of the Tiang Seri for Rumah Daeng Hadadek located in the Anjung area	229
Figure 4.3.4. 15	Location of the Tiang Seri of Rumah Haji Mahmood located in the Anjung areas	230
Figure 4.3.4. 16	The location of the Tiang Seri for Rumah Haji Mohd Nor	231