

**EFFECTIVENESS OF PASSIVE BUILDING  
TECHNIQUES IN DRY ZONE: A CASE STUDY OF AN  
ECO-LODGE**

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Degree of Master of Business Administration in Project Management

Department of Civil Engineering

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## DECLARATION OF THE CANDIDATE AND SUPERVISOR

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Signature of the supervisor

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## ABSTRACT

Human beings utilize the natural environment to fulfill the basic needs for survival. The sole responsibility of protecting the natural environment for present and future generations is upon us.

Built environment is a basic need of humans but most of these needs are catering to the '*wants*' exceeding the actual '*need*'. The consequences we are facing due to over consumption of resources is an 'eye-opener', which conveys an alarming message that we should minimize the destruction to the natural environment.

Understanding the environmental aspects and having the knowledge to practice them is the key for an environmental friendly and healthy development. Appreciation of such moves and approaches will influence other building sectors and stakeholders to become more environmental friendly in all aspects of the industry.

The case that is looked at in this research is one of such attempts to understand the natural environment and creating an environment friendly building. This is a small step towards much larger goals, we need to achieve in terms of environment friendly building construction. The dry zone of Sri Lanka did not have much attraction due to its harsh climatic conditions throughout the year. But some Architects have been bold enough to face the challenge of creating innovative yet comfortable buildings with minimum environmental and social impacts.

Selected building for the case study is designed by a reputed local architectural practitioner, Archt. Wijitha Basnayake. The building known as Galkadawal Forest Lodge, is located 20km off Habarana, in the North Central Province of Sri Lanka, which falls into the dry zone. This is a fine example of manipulating built environment with minimum resources to suite the local climate with minimum environmental and financial costs.

**Key words** – Global Environmental Issues, Climate Change, Eco Tourism, Passive Thermal Controlling, Cost Benefits, NPV

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# TABLE OF CONTENTS

DECLARATION	i
ACKNOWLEDGEMENT	ii
ABSTRACT	iii
TABLE OF CONTENTS	iv
LIST OF FIGURES	vii
LIST OF TABLES	x
LIST OF ABBREVIATIONS	xi
1.0 CHAPTER 01	1
1.1 Introduction	2
1.2 Objectives of the research	2
1.3 Methodology	2
1.4 Importance of the study	3
1.5 Limitations of the study	4
1.6 Main Findings	4
1.7 Organization of the report	4
2.0 CHAPTER 02: LITERATURE REVIEW	6
2.1 General	6
2.2 Global Environmental Challengers	6
2.2.1 Urbanization	6
2.2.2 Population Growth	8
2.2.3 Deforestation	9
2.2.4 Global Warming	10
2.3 Outcome of Environmental Challengers	13
2.3.1 Scarcity of Natural Resources	13
2.3.2 Increased Demand for Energy	16
2.2.3 Climate Change	19
2.4 Problem Solving Mechanism for Environmental Issues; Built Environment	22
2.4.1 Green Architecture	23
2.4.2 Green Rating Systems for Buildings	25

2.4.3	Net Zero Buildings.....	28
2.4.4	Passive Building Techniques .....	29
2.5	Financial benefits.....	30
2.5.1	Ecotourism .....	31
2.5.2	Customer Satisfaction .....	34
2.5.3	Embodied Energy – EE.....	36
2.5.4	Life Cycle Costing - LCC .....	38
2.6	Summary .....	41
3.0	CHAPTER 03: CASE STUDY.....	43
3.1	General.....	43
3.2	Climatic Zones.....	43
3.3	Selected Building: Galkadawala Forest Lodge.....	49
3.3.1	Site Selection .....	50
3.3.2	Key considerations.....	52
3.3.3	Galkadawala Forest lodge – Details.....	53
3.3.4	Material usage.....	62
3.3.5	Addressing climatic issues with Passive Architecture .....	70
3.4	Passive Concepts.....	72
3.4.1	Orientation .....	72
3.4.1	Flow of spaces .....	72
3.4.1	Built form.....	72
3.5	Micro Climatic modifications .....	72
3.6	Other Considerations .....	73
3.7	Summary .....	73
4.0	CHAPTER 04: DESIGN APPROACH .....	74
4.1	General.....	74
4.2	Owner’s Input and Requirements .....	74
4.3	Architect’s Approach.....	75
4.3	Guest Feedback.....	80
4.4	Summary .....	82
5.0	CHAPTER 05: CASE STUDY ANALYSIS .....	84
5.1	General.....	84

5.3	Data analysis .....	84
5.3.1	Actual conditions .....	86
5.3.2	Cooling load calculations.....	86
5.3.2	Ascertaining running costs.....	96
5.2	Objective realization .....	97
5.3	Summary .....	110
CHAPTER 06 .....		112
6.0	Conclusion .....	112
6.1	Further Studies.....	116
REFERENCES .....		117
Appendix 01.....		122
Appendix 02.....		123
Appendix 02.....		124
Appendix 03.....		125
Appendix 04.....		126
Appendix 05.....		127
Appendix 06.....		128



## LIST OF FIGURES

<b>Figure 01</b>	Breakdown of Embodied Energy Calculation	37
<b>Figure 02</b>	Climatic Zones of Sri Lanka	44
<b>Figure 03</b>	First inter monsoon rains fall (March- April)	45
<b>Figure 04</b>	South West monsoon rain fall (May- September)	46
<b>Figure 05</b>	Second Intermonsoon rain (October – November)	47
<b>Figure 06</b>	North East Monsoon rain (November – February)	48
<b>Figure 07</b>	Location of Galkadawal Forest Lodge in relation to climatic zones of Sri Lanka	49
<b>Figure 08</b>	Abandoned chena cultivation; land before construction	50
<b>Figure 09</b>	Abandoned chena cultivation; land before construction	50
<b>Figure 10</b>	Abandoned chena cultivation; land before construction	51
<b>Figure 11</b>	Abandoned chena cultivation; land before construction	51
<b>Figure 12</b>	Layout plan with landscape	54
<b>Figure 13</b>	Section with landscape	54
<b>Figure 14</b>	Ground Level	55
<b>Figure 15</b>	First Level	55
<b>Figure 16</b>	Second Level (Open Deck)	56
<b>Figure 17</b>	Section AA	56
<b>Figure 18</b>	Section BB	57
<b>Figure 19</b>	Front view of the building facing the forest	57
<b>Figure 20</b>	Rear view of the building facing Galkadawala tank	57
<b>Figure 21</b>	Lounge [A]	58
<b>Figure 22</b>	Dining [B] and key plan	58
<b>Figure 23</b>	Ground Floor Bedroom [C]	59
<b>Figure 24</b>	Ground Floor Bedroom [C] and key plan	59
<b>Figure 25</b>	First Level Bedroom [D]	60
<b>Figure 26</b>	First Level Bedroom [E] and key plan	60
<b>Figure 27</b>	Second Level (open deck)	61
<b>Figure 28</b>	Second Level (open deck)	61
<b>Figure 29</b>	Columns with stone base	62
<b>Figure 30</b>	Columns with stone base	62
<b>Figure 31</b>	Reused unplastered exterior walls with mud mortar	63
<b>Figure 32</b>	Reused unplastered exterior walls with mud mortar	63
<b>Figure 33</b>	Load bearing brick walls with clay mortar and clay plaster	63

<b>Figure 34</b>	Ground Floor – Clay and sand finish	64
<b>Figure 35</b>	Perforated galvanized metal floor (discarded cable trucking)	65
<b>Figure 36</b>	Perforated galvanized metal floor (discarded cable trucking)	65
<b>Figure 37</b>	Cable trucking panel	65
<b>Figure 38</b>	Second Floor Slab	66
<b>Figure 39</b>	Painted plaster board ceiling at lounge	67
<b>Figure 40</b>	Painted plaster board ceiling in bedroom	67
<b>Figure 41</b>	Roof with coconut rafters & tin sheets	68
<b>Figure 42</b>	Roof with coconut rafters & tin sheets	68
<b>Figure 43</b>	Reused doors & windows in bedrooms	69
<b>Figure 44</b>	Reused windows	69
<b>Figure 45</b>	Section AA : wind movement through floors	70
<b>Figure 46</b>	Section BB : wind movement through floors	70
<b>Figure 47</b>	Roof overhang on East side of the building	71
<b>Figure 48</b>	Large roof overhang on West side of the building	71
<b>Figure 49</b>	Inspiration; traditional tree house in Chena	76
<b>Figure 50</b>	During Construction	78
<b>Figure 51</b>	During Construction	78
<b>Figure 52</b>	During Construction	78
<b>Figure 53</b>	Architect at site during construction	79
<b>Figure 54</b>	During Construction, view from bund	79
<b>Figure 55</b>	Galkadawala Forest Lodge – Then & Now	82
<b>Figure 56</b>	Locations of probes in Room 01 in ground level	84
<b>Figure 57</b>	Locations of probes in Room 02 in first level	85
<b>Figure 58</b>	Probe location for graph 01	86
<b>Figure 59</b>	Graph 01: Room 01 Indoor Surfaces, Outdoor Surfaces vs. Average Ambient Temperature	86
<b>Figure 60</b>	Probe location for graph 02	87
<b>Figure 61</b>	Graph 02: Room 02 Indoor Surfaces, Outdoor Surfaces vs. Average Ambient Temperature	87
<b>Figure 62</b>	Probe location for graph 03	88
<b>Figure 63</b>	Graph 03: Perforated Metal Floor – 1 <sup>st</sup> Floor Soffit vs. 1 <sup>st</sup> Floor Top	88
<b>Figure 64</b>	Probe location for graph 04	89

<b>Figure 65</b>	Graph 04: Ambient temperature vs. West IN & OUT Wall Surfaces	89
<b>Figure 66</b>	Probe location for graph 05	90
<b>Figure 67</b>	Graph 05: Ambient temperature vs. East IN & OUT Wall Surfaces	90
<b>Figure 68</b>	Probe location for graph 06	92
<b>Figure 69</b>	Graph 06: Ambient temperature vs. Roof IN & OUT Surfaces	92
<b>Figure 70</b>	Probe location for graph 07	93
<b>Figure 71</b>	Graph 07: Ambient temperature vs. Ground Floor Room & 1st Floor	93
<b>Figure 72</b>	Room 01; Ground Floor	94
<b>Figure 73</b>	Cooling load of Room 01	94
<b>Figure 74</b>	Room 02; First Floor	95
<b>Figure 75</b>	Cooling load of Room 02	95
<b>Figure 76</b>	Cooling load comparison of Room 01 & 02	95
<b>Figure 77</b>	Graphical presentation of NPV calculation of passive building for 75 years	104
<b>Figure 78</b>	Graphical presentation of NPV calculation of passive building for 75 years	105
<b>Figure 79</b>	Graphical Presentation NPV value comparison for passive and active building for 30years	106
<b>Figure 80</b>	Graphical Presentation NPV value comparison for passive and active building for 45 years	107
<b>Figure 81</b>	Graphical Presentation NPV value comparison for passive and active building for 60 years	108
<b>Figure 82</b>	Graphical Presentation NPV value comparison for passive and active building for 75 years	109

## LIST OF TABLES

<b>Table 01</b>	Guest feedback	80
<b>Table 02</b>	Guest feedback	81
<b>Table 03</b>	Cost of electricity of the case	96
<b>Table 04</b>	Categories of design lifespan for buildings (from BS 7543:1992)	98
<b>Table 05</b>	Arriving at average cost of renovation & Approximate time duration for 1 <sup>st</sup> renovation	101
<b>Table 06</b>	NPV calculation for selected case – 15-year time duration.	103
<b>Table 07</b>	NPV calculation for selected case – 15, 30,45 60 and 75 years	104
<b>Table 08</b>	NPV calculation for Active building – 30,45 60 and 75 years	105
<b>Table 09</b>	NPV value comparison for passive and active buildings for 30years	106
<b>Table 10</b>	NPV value comparison for passive and active buildings for 45 years	107
<b>Table 11</b>	NPV value comparison for passive and active buildings for 60 years	108
<b>Table 12</b>	NPV value comparison for passive and active buildings for 75 years	109
<b>Table 13</b>	NPV value comparison for passive and active buildings for 30,45 60 and 75	110

## **LIST OF ABBREVIATIONS**

UNWTO	: World Tourism Organization
WWAP	: World Water Assessment Programme
EIA	: Energy information admiration (United States)
IT	: Information Technology
LCC	: Life Cycle Costing
EE	: Embodied Energy
WTTC	: World Travel & Tourism Council
ESSL	: Ecotourism Society of Sri Lanka
SLTDA	: Sri Lanka Tourism Development Authority
IUCN	: International Union for Conservation of Nature
ENSO	: El Niño–Southern Oscillation
HVAC	: Heating, ventilation and air conditioning
AC	: Air Conditioning
NPV	: Net Present Value
WWAP	: World Water Assessment Programme
EIA	: Energy information admiration (United States)
IT	: Information Technology