

**ADOPTABILITY OF THE PPP MODELS TO
OVERCOME PROCUREMENT ISSUES IN STATE
SECTOR MIDDLE INCOME HOUSING PROJECTS IN
SRI LANKA**

Amarasinghe Arachchige Don Namal Anuradha

228533V

Degree of Master of Science in Project Management

Department of Building Economics

Faculty of Architecture

University of Moratuwa

Sri Lanka

February 2026

**ADOPTABILITY OF THE PPP MODELS TO
OVERCOME PROCUREMENT ISSUES IN STATE
SECTOR MIDDLE INCOME HOUSING PROJECTS IN
SRI LANKA**

Amarasinghe Arachchige Don Namal Anuradha

228533V

Dissertation submitted in partial fulfillment of the requirements for the
Degree of Master of Science in Project Management

Department of Building Economics
Faculty of Architecture

University of Moratuwa
Sri Lanka

February 2026

DECLARATION

I declare that this is my own work and this dissertation does not incorporate without acknowledgement any material previously submitted for a degree or diploma in any other university or institute of higher learning and to the best of my knowledge and belief it does not contain any material previously published or written by another person except where the acknowledgement is made in the text.

Further, I acknowledge the intellectual contribution of my research supervisor Ch. QS. Prof. (Mrs.) B.A.K.S. Perera for the successful completion of this research dissertation. I affirm that I will not make any publication from this research without the name of my research supervisor as contributing author unless otherwise I have obtained written consent from my research supervisor.

Also, I hereby grant to University of Moratuwa the non-exclusive right to reproduce and distribute my dissertation, in whole or in part in print, electronic or other medium. I retain the right to use this content in whole or part in future works such as articles or books.

.....

Signature

.....

Date

The above candidate has carried out research for the Masters dissertation under my supervision. I confirm that the declaration made above by the student is true and correct.

Name of Supervisor: Ch. QS. Prof. (Mrs.) B.A.K.S. Perera

.....

Signature of the Supervisor:

.....

Date:

DEDICATION

*I wholeheartedly dedicate this
dissertation to my beloved parents,
my loving wife & son, and my
respected lecturers and colleagues,
whose unwavering support and
encouragement have guided me
throughout this journey.*

ACKNOWLEDGEMENT

This research study embraces much dedication and ready assistance received from many people, who contributed in plentiful ways to ensure the success of the final output. Hence, it is my privilege to honor and acknowledge every individual who contributed to this piece of work in numerous ways.

First and foremost, I pay my heartiest gratitude to my dissertation supervisor, Ch. QS. Prof. (Mrs.) B.A.K.S. Perera, for her valuable guidance, advice and encouragement given to me at all the times to make this research a success.

I would like to pay my indebtedness to the Head of the Department of Building Economics, Ch. QS Dr. Suranga Jayasena, the Programme Director (MSc in Project Management), Ch. QS. Indunil Seneviratne and all other staff members of the Department of Building Economics for their immense assistance and advice provided during the research period and throughout the whole programme.

I am highly indebted to all the professionals and workers in the industry who contributed to this study by sparing time for data collection and sharing their thoughts and valuable knowledge.

Finally, I express my heartfelt gratitude to my parents, family members, my batch mates and all others who were with me during this study for giving their utmost support, and genuine advice and continuously motivating me to carry out the work successfully.

Anuradha A.A.D.N

February 2026.

ABSTRACT

State-sector middle-income housing construction in Sri Lanka faces major procurement challenges due to the limitations of traditional procurement models. These conventional procurement methods dominate the sector but lack resilience in dealing with economic shocks, material price fluctuations, and weak risk management. Globally, Public-Private Partnerships (PPPs) have emerged as a promising alternative to overcome such issues and are widely applied in countries including Poland, Nigeria, Tanzania, Ghana, India, Malaysia, and China. However, in Sri Lanka, little research has examined the adaptability of PPPs in addressing procurement challenges within state housing projects, creating a significant research gap. Thus, this study investigates the potential of adoptability of PPP models to overcome procurement issues in state-sector middle-income housing projects in Sri Lanka. A qualitative approach was adopted, and two rounds of expert interviews were conducted among professionals in state sector housing procurement using Delphi technique. Manual content analysis was used to explore PPP's integration and to identify barriers to implementation.

Findings revealed fourteen procurement issues in the current system, including bureaucratic delays, lengthy tendering processes, and cost and time overruns. In contrast, nineteen beneficial features of PPPs were identified, such as risk-sharing, value for money, collaboration, and the use of private sector legal entities. Yet, sixteen major barriers hinder PPP adoption in Sri Lanka, including financial constraints, regulatory challenges, weak institutional frameworks, and unpredictable economic conditions. To address these challenges, the study proposes measures such as creating Special Purpose Vehicles (SPVs), promoting continuous public-private collaboration, and leveraging private investment to reduce public financial risk. Recommendations include developing standardized PPP financial models, transparent procurement platforms, and a centralized knowledge hub. The research highlights that PPP housing models in Sri Lanka require clear, standardized processes to provide confidence to stakeholders and ensure effective implementation.

Keywords: *Public–Private Partnership, Procurement issues, State sector middle-income housing, Sri Lanka*

TABLE OF CONTENTS

DECLARATION	i
DEDICATION	ii
ACKNOWLEDGEMENT	iii
ABSTRACT.....	iv
TABLE OF CONTENTS.....	v
LIST OF FIGURES	ix
LIST OF TABLES	x
LIST OF ABBREVIATIONS	xi
LIST OF APPENDICES	xii
CHAPTER 1	1
1.INTRODUCTION	1
1.1. Background	1
1.2. Problem Statement	4
1.3. Aims and Objectives	5
1.4. Research Methodology	6
1.4.1. Literature Review	6
1.4.2. Expert Interviews.....	6
1.4.3. Scope and Limitations	6
1.5. Chapter Breakdown.....	7
CHAPTER 2	8
2.LITERATURE REVIEW.....	8
2.1. Introduction	8
2.2. Defining the Concept of Affordable Housing	8
2.3. Procurement of Affordable Housing	10
2.4. Issues in current procurement methods in housing	11
2.5. Challenges in the implementation of housing projects.....	14
2.6. Need of innovative procurement methods.....	16
2.7. Public Private Partnership (PPP).....	17
2.8. Distinctive characteristics of PPP.....	18

2.9. Models of Public-Private Partnerships	22
2.10. Practices of PPP model.....	24
2.10.1. PPP model practice in different sectors at the international and local level	24
2.10.2 Use of PPP model in Affordable housing sector.....	26
2.11. Barriers to implementation of PPP models	27
2.12. Theoretical Framework	31
2.13. Significance of adapting the PPP model for overcoming challenges in state-sector middle-income housing in Sri Lanka.....	32
2.14. Summary	33
CHAPTER 03	34
3.RESEARCH METHODOLOGY	34
3.1. Introduction	34
3.2. Research design	34
3.3. Research approaches	34
3.3.1 Available approaches.....	34
3.3.2 Justification for the selected research approach	36
3.4. Research Strategy	36
3.4.1. Available Research Strategies	36
3.4.2. Justification for the selected research strategy	37
3.5. Research methods – Data collection techniques	37
3.5.1. Justification for the selected research method.....	37
3.5.2. Qualitative Delphi technique	38
3.5.3. Sampling Methods.....	39
3.6. Data analysis techniques	39
3.7. Research Process	40
3.8. Summary	42
CHAPTER 04	43
4.RESEARCH FINDINGS AND ANALYSIS.....	43
4.1. Introduction	43
4.2. Qualitative technique: expert interviews	43
4.2.1. Expert selection criteria	43

4.2.2. Experts for Delphi rounds	45
4.3. Semi structured expert interviews – Delphi round 01	47
4.3.1 Objectives of expert interviews – Delphi round 01	47
4.4. Analysis of expert interview findings – Delphi round 01	48
4.4.1 Special features of PPP. (Round 01, Phase 01)	48
4.4.2 The issues of the current procurement methods used in state-sector affordable housing projects in Sri Lanka (Round 01, Phase 02).....	52
4.4.3 The PPP models most suitable for state sector affordable housing projects in Sri Lanka. (Round 01 Phase 03)	57
4.4.4 The barriers of implementation of PPP models in state sector housing projects in Sri Lanka? (Round 01, Phase 04).....	60
4.5. Semi-structured expert interviews - Delphi round 02	65
4.5.1. Objectives of expert interviews – Delphi round 02.....	65
4.6. Analysis of expert interview findings – Delphi round 02	65
4.6.1 The use of the special features of PPP models to overcome the important issues of the current procurement methods used in state-sector affordable housing projects in Sri Lanka. (Round 02, Phase 01).....	65
4.6.2 The barriers to the implementation of PPP models in state sector Housing Projects to each important issue (Round 02, Phase 02)	78
4.7. Framework for adoptability of the PPP models to overcome issues in state sector middle-income housing projects In Sri Lanka.....	87
4.8. Pattern matching for the research study	89
4.8.1 Special features of PPP model.....	89
4.8.2 The issues of the current procurement methods used in state-sector affordable housing projects in Sri Lanka.	89
4.8.3 The barriers to the implementation of PPP models in state sector housing projects in Sri Lanka.	90
4.8.4 Addressing Procurement Challenges in State-Sector Affordable Housing through the Special Features of PPP Models in Sri Lanka.	90
4.8.5 The barriers to the implementation of PPP models in state sector housing projects to each important issue.	90
4.9. Chapter Summary	91
CHAPTER 05	92
5.CONCLUSION AND RECOMMENDATIONS.....	92
5.1. Introduction	92

5.2. Conclusions	92
5.3. Recommendations	95
5.4. Contribution of This Study	96
5.5. Limitations.....	96
5.6. Areas for Further Research.....	97
6.REFERENCES.....	98
7.APPENDIX - A.....	129
8.APPENDIX - B	135

LIST OF FIGURES

Figure 2.1: Theoretical Framework.....	31
Figure 3.2: Research Process	41
Figure 4-3: Framework for adoptability of the PPP models to overcome issues in state sector middle-income housing projects.....	88

LIST OF TABLES

Table 2-1: Issues in procurement of affordable housing.....	12
Table 2-2: Challenges in the implementation of affordable housing projects	14
Table 2-3: Special Features of PPP	20
Table 2-4: Different types of PPP Models	22
Table 2-5: PPP practices in different sectors at the international level.....	24
Table 2-6: PPP practices in affordable housing at the international level.	27
Table 2-7: Different barriers to implementation of PPP models in Housing sector ..	28
Table 3-1: Research Approaches	35
Table 4-1: Experts selection criteria	44
Table 4-2: Respondents for expert interviews - Delphi rounds	45
Table 4-3:Special features of PPP Model.	48
Table 4-4: The issues of the current procurement methods used in state-sector affordable housing projects.	53
Table 4-5: The PPP models suitability for Government affordable housing projects in Sri Lanka	57
Table 4-6:The barriers to the implementation of Public Private Partnership (PPP) models in state sector Housing Projects in Sri Lanka	60
Table 4-7: The use of the special features of PPP models to overcome the important issues of the current procurement methods used in state-sector affordable housing projects.	67
Table 4-8: Barriers to the implementation of PPP models in state sector Housing Projects to each important issue.	79

LIST OF ABBREVIATIONS

Abbreviation	Description
BOO	Build-Own-Operate
BOOT	Build Own Operate Transfer
BOT	Build Operate Transfer
BTO	Build Transfer Operate
D&B	Design and Built
DBFO	Design Build Finance Operate
DBFOM	Design Build Finance Operate Maintain
DBOM	Design, Build, Operate and Maintain
DCMF	Design Construct Manage Finance
JV	Joint Venture
LDO	Lease, Develop, Operate
NHDA	National Housing Development Authority
PBC	Performance-Based Contract
PFI	Private Finance Initiative
PPP	Public Private Partnership
UDA	Urban Development Authority

LIST OF APPENDICES

APPENDIX – A Interview Guideline - Round – 01.....	129
APPENDIX – B Interview Guideline - Round – 02.....	135