A FRAMEWORK TO INTEGRATE SUSTAINABILITY INTO THE PUBLIC PROCUREMENT PROCESS IN THE SRI LANKAN CONSTRUCTION INDUSTRY

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Doctor of Philosophy

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Thesis submitted in partial fulfilment of requirements for the degree

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DECLARATION

I declare that this is my own work and this thesis 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. I retain the right to use this content in whole or part in future works (such as articles or books).

K. A. P. Gunawardhana

Signature: UOM Verified Signature Date: 25 August 2023

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

Prof. Y. G. Sandanayake

Signature of the supervisor: Date: 25 August 2023

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Signature of the supervisor: Date: 25 August 2023

Dr. T. S. Jayawickrama

Signature of the supervisor: Date: 25 August 2023

DEDICATION

To my family ...

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ABSTRACT

A well-designed, effective, and transparent Public Procurement Process (PP Process) in the construction industry is an integral part of achieving sustainability in developing countries, where the contribution of the PP Process to the construction industry accounts for 30% of the GDP. As per the Department of Census and Statistics, the value of the civil works contracts in Sri Lanka in 2019 was USD 4.9 billion. Hence, a 1% efficiency in the construction industry saves more than USD 49 million per year. However, the current PP Processes in the construction industry in developing countries have lagging features in achieving sustainable development objectives due to many problems. Developing countries lack continued national strategies and sustainability focus in their PP Process in the construction industry compared to developed countries. This is identified as a main problem, in addition to the outdated knowledge and technology used by the contract parties and officers in the procuring entity. The development partners requested the borrowers to strengthen the PP Process with approaches to integrate sustainability into the PP Process to overcome the deficiencies of the process. Hence, the study formulated the key research question, "How to integrate sustainability into the Public Procurement Process in the Sri Lankan construction industry?" The aim of addressing this research problem was to develop a framework to integrate sustainability into the PP Process in the Sri Lankan construction industry, with five objectives. A comprehensive literature review, a desk study consisting of four internationally accepted guidelines and review reports, a preliminary study through interviews with 14 experts, a main investigation via interviews with 35 respondents, and an expert validation forum with five industry experts were conducted to develop, evaluate, and validate the proposed framework to integrate sustainability into the PP Process. This research selected a pragmatic stance. Accordingly, qualitative data were analysed using manual content analysis, and quantitative data were analysed using the arithmetic mean and presented in the X-Matrix Diagram using a colour code. The research focused only on integrating sustainability into the public procurement process but not the sustainability of the end product in the construction industry.

The desk study and the preliminary study verified the applicability of five key stages: (a) preparation, (b) design, (c) pre-construction, (d) construction, and (e) use, and related 39 activities, ten key problems and 22 key root causes, and 15 sustainability factors to the PP Process in the Sri Lankan construction industry. The findings confirmed the high impact of the 22 key root causes on the ten key problems and the high impact of the identified problems on the 39 activities of the PP Process. The root cause, 'Negligence, errors, and technical deficiencies' has the highest arithmetic mean value for eight problems out of ten. All ten problems highly impacted the activities in the latter part of the Preparation Stage and almost all activities in the Design and Pre-Construction Stages. The 22 root causes were highly impacted by 80% of the key sustainability factors, and 20% of the sustainability factors have a 'medium impact' on the root causes. Finally, the research developed a framework by integrating sustainability factors into the PP Process in the construction industry in Sri Lanka. The study contributed to the theory by identifying the sustainability factors needed to upgrade the existing PP Process in the construction industry for developing countries with similar contexts to Sri Lanka. The developed framework will support the construction industry in addressing problems at each PP Process stage by incorporating sustainability factors into the process. The Sri Lankan government could effectively use these research findings to develop a national policy, improve and update procurement guidelines and standard bidding documents, and establish indicators to monitor and evaluate the PP Process activities in the construction industry to achieve sustainable development. The findings will ultimately facilitate the development of a Sustainable Public Procurement Process (SPPP) in the construction industry.

Keywords: Construction Industry; PP Process; Problems; Root Causes; Sustainability Factors

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LIST OF ABBREVIATIONS

ADB	Asian Development Bank
BSc	Bachelor of Science
CIDA	Construction Industry Development Authority
CIPS	Chartered Institute of Procurement and Supply
GDP	Gross Domestic Products
GOSL	Government of Sri Lanka
EIA	Environmental Impact Assessment
FIDIC	International Federation of Consulting Engineers
FR	Financial Regulations
IBRD	International Bank for Rehabilitation and Development
ICTAD	Institute of Construction Training and Development
JICA	Japan International Cooperation Agency
LKR	Sri Lankan Rupees
MOF	Ministry of Finance
NPA	National Procurement Agency
NPC	National Procurement Commission
ODA	Official Development Assistance
OECD	Organisation for Economic Cooperation and Development
OGC	Office of Government Commerce
PE	Procuring Entity
PGLs	Procurement Guidelines
the PP Process	Public Procurement Process
QFD	Quality Function Deployment
RAP	Resettlement Action Plan
RIBA	Royal Institute of British Architects
SBDs	Standard Bidding Documents
SDGs	Sustainable Development Goals
SIA	Social Impact Assessment
SLGAP	Sri Lankan Government Action Plan
SLIDA	Sri Lanka Institute of Development Administration
SPPP	Sustainable Public Procurement Process

TEC	Technical Evaluation Committee
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
US$	United State Dollars
VFM	Value for Money
WB	World Bank
WSSD	World Summit on Sustainable Development

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