

**PROJECT MANAGEMENT CONSTRAINTS AND  
OPERATIONALISATION DIMENSIONS OF  
VEHICLE EMISSION TESTING (VET) PROGRAMME**

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Degree of Master of Science in Project Management

Department of Building Economics

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## 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.

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The above candidate has carried out research for the Masters dissertation under my supervision.

.....  
Dr. K.A.K. Devapriya

.....  
Date

Dissertation Supervisor

## ABSTRACT

### **Project Management constraints and operationalisation dimensions of Vehicle Emission Testing (VET) programme**

Urban air pollution was becoming an issue in Sri Lanka especially towards late 1990's. It was evident that the transport sector was the largest contributor to the overall total emissions for all pollutants.

Analysis of air quality data had suggested the ever increasing vehicle fleets as the major culprit. Poor vehicle maintenance, absence of a system to monitor, control and regulate vehicular emissions, and low quality fuels contributed towards increased emissions from vehicles. Therefore, government intervention was required to reverse the trend of deteriorating air quality and mitigate the accompanying adverse health effects caused by exposure to fine particles, lead and other vehicular emissions.

With the roles, responsibilities and expertise dispersed within several organizations, to curb air pollution, in year 2001, created Air Resource Management Center (AirMAC): a multi-stakeholder organization as a strong partnership institution linking all stakeholder agencies.


AirMAC initiated Vehicle Emission Testing (VET) to monitor and control level of emission generated by vehicles in Sri Lanka in 2008. The main sponsoring body of the VET programme is Ministry of Environment in Sri Lanka.

This study was conducted to determine critical constraints to the effective implementation of VET programme in Sri Lanka, particularly from a project management perspective. Its strengths and weaknesses are analysed to propose ways and means to improve its effectiveness and efficiency in the long term.

The key findings of this case study categorized under 3 main development areas. The policy measures area includes programme administration, and financial mechanism of VET Trust Fund and has identified several planning and executing issues. Stakeholders' goals and rewards areas how clear communication gaps and problems with stakeholders' participation. In the benchmarking and standardization aspects of the VET programme during the monitoring and controlling phases were found several issues arising due to creation of competition, weakness of data and software management, lack of a roadside vehicle emission testing programme, VET centre inspection programme, non-implementation of liquidated damages or penalties for breach of test procedure and so on. For the improvement of the VET programme the recommendations addressing the three important areas organizational changes, better project management practices and the enhance role of the sponsor of management could be followed as the management practices.

**Keywords:** *Air Pollution, AirMAC, Vehicle Emission Testing Programme, Project Management, Vehicle Inspection and Maintenance*

## DEDICATION

I lovingly dedicate this dissertation to my parents,  
 University of Moratuwa, Sri Lanka.  
who have supported me each step of the way of my life.

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# TABLE OF CONTENTS

Declaration .....	i
Abstract .....	ii
Dedication .....	iii
Acknowledgement .....	iv
Table of content .....	v
List of Figures .....	x
List of Tables .....	xii
List of Abbreviations .....	xiv
List of Appendices .....	xvi
<b>1. Introduction.....</b>	<b>1</b>
1.1. Introduction.....	1
1.2. Problem Statement.....	4
1.3. Aim and Objectives.....	5
1.3.1 Aim.....	5
1.3.2 Objectives.....	5
1.4. Methodology.....	5
1.5. Scope and Limitations.....	6
1.6. Summary.....	6
<b>2. Literature Review .....</b>	<b>7</b>
2.1. Introduction.....	7
2.2. Review of critical issues of the VET programme.....	7
2.2.1 Background of NEA and National Environmental Regulationson AAQ .....	7
2.2.2. Litigation issues against the minister of environment.....	8
2.2.3 Remedial actions from National Environmental (Air Emission, Fuel and Vehicle Importation Standards) Regulations.....	9

2.2.4	Formation of AirMAC and AirMAC committee and surrounding issues .....	11
2.2.4.1	Establishment of VET programme .....	11
2.2.4.2	Issues in implementation of VET programme .....	13
2.3	Review of project management Literature.....	16
2.3.1	Organizations and their structures .....	16
2.3.2	Comparison of projects, programs and portfolios .....	18
2.3.3	Project Management.....	20
2.3.4	Project lifecycle .....	23
2.3.5	Project environment.....	24
2.3.6	Role and responsibilities of stakeholders .....	26
2.3.7	Project Management office.....	27
2.3.7.1	Project manager .....	27
2.3.7.2	Project team .....	28
2.3.8	Interpersonal skills of project managers.....	28
2.3.9	Organizational influences on project management .....	29
2.3.10	Potential problems related to managing projects.....	31
2.4	Summary .....	32
<b>3.</b>	<b>Research Methodology .....</b>	<b>33</b>
3.1	Introduction.....	33
3.2	Research Methodology .....	33
3.2.1	The case study as a research method.....	33
3.2.2	General research methods – quantitative and qualitative Evaluation methods .....	34
3.2.2.1	How are quantitative and qualitative data different? .....	34
3.2.3	Variations within case studies as a research method.....	35
3.3	Research design .....	35
3.3.1	Definition of the research design.....	35
3.3.2	Component of research designs.....	35
3.3.2.1	Study questions .....	36
3.3.2.2	Study propositions .....	36



3.3.2.3	Unit of analysis .....	36
3.3.2.4	Linking data to propositions and criteria for interpreting the findings .....	36
3.3.3	Research question .....	36
3.3.4	General approach to designing case studies .....	37
3.3.4.1	Case study designs .....	37
3.3.4.2	Case study method .....	37
3.3.5	Case study questions.....	38
3.3.6	Collecting case study evidence.....	39
3.3.7	Three principles of data collection .....	39
3.3.8	Data Collection of case study on VET program.....	39
3.3.9	Analyzing case study evidence.....	40
3.4	Framework for analysis of case study data on VET programme.....	40
3.5	Summary .....	41
<b>4.</b>	<b>Data Collection and Analysis .....</b>	<b>43</b>
4.1	Introduction.....	43
4.2	Analysis of semi-structured interviews with the focused groups on the VET programme .....	43
4.2.1	Project Initiation Phase.....	43
4.2.2	Project Planning Phase .....	44
4.2.3	Project Execution Phase .....	47
4.2.4	Project Monitoring and Controlling Phase .....	52
4.3	Analysis of monitoring reports of VET programme.....	55
4.3.1	Analysis of reports of roadside VET programme.....	56
4.3.2	Analysis of reports of VET centre inspection and monitoring.....	58
4.3.3	Analysis of reports of smoky vehicles spotter programme .....	63
4.4	Analysis of the data of vehicle emission testing database .....	64
4.5	Analysis of the data of VET database for settings standards in future .....	73
4.5.1	Setting standards for all diesel vehicles.....	73
4.5.2	Setting standards for petrol Motorcycles & Tricycles.....	73

4.6	Analysis of the VET programme by using flow diagram .....	75
4.6.1	Benchmarks and key milestones of the VET programme .....	75
4.6.2	Work breakdown structure / Organizational breakdown structure .....	76
4.7	Analysis and Comparison of VET experience in Sri Lanka and Abroad and International Best Practices .....	77
4.8	Summary .....	82
<b>5.</b>	<b>Conclusions and Recommendations .....</b>	<b>83</b>
5.1	Introduction .....	83
5.2	Conclusions .....	83
5.2.1	Policy measures .....	83
5.2.1.1	Programme administration .....	83
5.2.2	Stakeholders' goals and rewards .....	84
5.2.2.1	Communication gaps and stakeholders participation .....	84
5.2.3	Benchmarking and standardization .....	85
5.2.3.1	Creating competition .....	85
5.2.3.2	Response of vehicles owners .....	86
5.2.3.3	Data and software management .....	86
5.2.3.4	Roadside vehicle emission testing programme .....	87
5.2.3.5	VET center inspection programme .....	87
5.2.3.6	Liquidated damages or penalties for breach of test procedure .....	87
5.2.3.7	Smoky vehicles spotter programme .....	88
5.2.3.8	Impact assessment .....	88
5.2.3.9	Discrepancy of results and the use of different quality machines by operators .....	88
5.3	Recommendations .....	89
5.3.1	Organisational changes .....	89
5.3.2	Better project management practice .....	89
5.3.3	Enhanced role of the sponsor .....	91
5.4	Summary .....	92

**Reference .....93**

Appendix A: Questionnaire for the semi structured interview to find the  
                  successes, issues and their causes of the VET programme..... 97

Appendix B: A sample report of Inspection and Monitoring of VET Centers..... 100

Appendix C: Statistics on VET centers in Sri Lanka ..... 105

Appendix D: Vehicle Emission Testing Database..... 106

Appendix E: Permission letter for using VET database..... 107



## LIST OF FIGURES

	Page
Figure 1.1: Total vehicle fleet in Sri Lanka from 2005 to 2011 .....	01
Figure 2.1: Typical cost and staffing levels of across the project life cycle.....	23
Figure 2.2: Impact of variable based on project time .....	24
Figure 2.3: The project environment and boundaries.....	24
Figure 2.4: The project system .....	31
Figure 3.1: Case study design.....	37
Figure 3.2: Designs versus data collection: Different Units of Analysis .....	38
Figure 3.3: Composition of main stakeholders.....	40
Figure 3.4: Case study framework.....	42
Figure 4.1: Key reasons for initiate VET .....	43
Figure 4.2: Key factors .....	44
Figure 4.3: Barriers during the project planning .....	45
Figure 4.4: Reasons for the delay in signing agreements .....	45
Figure 4.5: No. of respondents .....	46
Figure 4.6: Other options considered to control vehicular emission.....	46
Figure 4.7: Issues stage on project execution phase.....	48
Figure 4.8: Issues relating to transfer and recording of data .....	49
Figure 4.9: Main barriers in enforcement of VET certificates .....	50
Figure 4.10: Success of the VET Programme .....	50
Figure 4.11: Factors contributed to issues .....	51
Figure 4.12: Recommendations to rectify this situation.....	52
Figure 4.13: Opinion of respondents, violation of test procedure .....	52
Figure 4.14: Methods of violations of the procedures.....	52
Figure 4.15: Opinion of respondents on issuance of fraudulent VET certification by operators .....	53
Figure 4.16: Reasons of issuing fraudulent VET certificates .....	53
Figure 4.17: Main barriers to implement an effective and efficient project monitoring system.....	54

Figure 4.18: Opinions to implement an effective and efficient project monitoring system.....	55
Figure 4.19: Percentage of vehicles failed due to high HC and CO .....	57
Figure 4.20: Percentages of vehicles failed due to high k – Diesel vehicles .....	57
Figure 4.21: Percentages of observations obtained from centre .....	60
Figure 4.22: No. of observations by VET centre type .....	61
Figure 4.23: Recommendations obtained from centre inspection reports .....	63
Figure 4.24: Flow chart of vehicle emission testing .....	65
Figure 4.25: Total tests and initial tests by two companies .....	65
Figure 4.26: Initial failure rates of vehicles tested by the two companies (%).....	66
Figure 4.27: Retest failure rates of vehicles tested by two companies (%) .....	66
Figure 4.28: Retest failure rates (%) / Initial failure rates (%)*100 .....	67
Figure 4.29: Share of vehicles for two operators .....	67
Figure 4.30: No of vehicles tested from 2008 to 2012 in each category .....	68
Figure 4.31: Percentages of vehicle category in initial tested in 2012 .....	69
Figure 4.32: Distribution of vehicles among provinces in the year 2012 .....	70
Figure 4.33: Reasons for failure – diesel vehicles.....	72
Figure 4.34: K average values for all diesel vehicles in 2012 data.....	73
Figure 4.35: Idle HC values for petrol Motorcycles and Tricycles in 2012 .....	74
Figure 4.36: Idle CO values for petrol Motorcycles and Tricycles in 2012 data.....	74
Figure 4.37: Flow diagram of benchmarks and key milestones of the VET programme .....	76
Figure 4.38: Organisation breakdown structure of VET programme office.....	76

## LIST OF TABLES

	Page
Table 2.1: Ambient air quality standards 1994, 2008 and WHO guidelines of 2005 .....	08
Table 2.2: In-use vehicle emission standards published in 2000 .....	09
Table 2.3: Emission standards for in-use diesel vehicles.....	10
Table 2.4: Emission standards for in-use petrol vehicles.....	10
Table 2.5: Comparative overview of Project, Program and Portfolio Management.....	19
Table 2.6: Project management process groups and knowledge areas mapping.....	21
Table 4.1: Key reasons for initiate VET .....	43
Table 4.2: Key factors .....	44
Table 4.3: Barriers during the project planning .....	45
Table 4.4: Reasons for the delay in signing agreements .....	45
Table 4.5: Other options considered to control vehicular emission .....	46
Table 4.6: Issues at the project execution phase .....	47
Table 4.7: Issues relating to transfer and recording of data .....	48
Table 4.8: Main barriers in enforcement of VET certificates .....	49
Table 4.9: Success of the VET programme .....	50
Table 4.10: Factors contributed to issues .....	51
Table 4.11: Recommendations to rectify this situation .....	52
Table 4.12: Method of violation of the procedure .....	53
Table 4.13: Reasons of issuing fraudulent VET certificates .....	53
Table 4.14: Main barriers to implement an effective and efficient project monitoring system .....	54
Table 4.15: Opinions to implement an effective and efficient project monitoring system .....	55
Table 4.16: Reasons for failure – Petrol vehicles .....	56
Table 4.17: Reasons for failure – Diesel vehicles .....	57
Table 4.18: Number of stations inspected by AirMAC staff .....	59

Table 4.19: Observations obtained from centre inspection reports .....	59
Table 4.20: Recommendations based on the centre inspection reports .....	61
Table 4.21: Summary of progress of spotter programme .....	64
Table 4.22: Initial failure rates of vehicles tested by two companies (%).....	66
Table 4.23: Retest failure rates of vehicles tested by two companies (%) .....	66
Table 4.24: No of vehicles tested from 2008 to 2012 in each category .....	68
Table 4.25: Province-wise testing results .....	69
Table 4.26: Failure rate of diesel vehicles .....	70
Table 4.27: Failure rate of petrol vehicles .....	71
Table 4.28: Reasons for failure – diesel vehicles .....	71
Table 4.29: Reason for failure – petrol vehicles.....	72
Table 4.30: Institutional designs of the VET programme in selected countries .....	78
Table 4.31: Test procedures and emission standards of the VET programme in selected countries .....	79
Table 4.32: Compliance promotion and enforcement of the VET programme in other countries.....	80
Table 4.33: Managing resources of the VET programme in other countries .....	81

## LIST OF ABBREVIATIONS

<b>Abbreviation</b>	<b>Description</b>
AAQ	Ambient Air Quality
AirMAC	Air Resource Management Center
AQM	Air Quality Management
CA2AP	Clean Air 2000 Action Plan
CANC	Cabinet Appointed Negotiating Committee
CEA	Central Environmental Authority
CGMT	Commissioner General of Motor Traffic
CMT	Commissioner of Motor Traffic
CO	Carbon Monoxide
CPC	Ceylon Petroleum Corporation
DMT	Department Motor Traffic
DS	Divisional Secretariats
GOSL	Government of Sri Lanka
HC	Hydrocarbon
I/M	Inspection and Maintenance
ITI	Industrial Technology Institute
K Factor	Absorption co-efficient
MEIP	Metropolitan Environmental Improvement Programme
MENR	Ministry of Environment and Natural Resources
MOE	Ministry of Environment
MOH	Ministry of Health
MOT	Ministry of Transport
MTA	Motor Traffic Act
MUSSD	Measurement, Units, Standards and Services Department
NBRO	National Building Research Organization
NEA	National Environmental Act
NO <sub>x</sub>	Oxides of Nitrogen
O <sub>3</sub>	Ozone



<b>Abbreviation</b>	<b>Description</b>
PD	Project Director
PM <sub>10</sub>	Particulate Matter (particles with an aerodynamic Diameter < 10µm)
PM <sub>2.5</sub>	Particulate Matter (particles with an aerodynamic Diameter < 2.5µm)
PMI	Project Management Institute
PMO	Project Management Office
PPM	Parts per Million
RFP	Request for Proposals
RPM	Revolution per Minute
SVSP	Smokey Vehicles Spotter Programme
SO <sub>2</sub>	Sulfur Dioxide
SPM	Suspended Particulate Matter
TPD	Traffic Police Department
TSP	Total Suspended Particles
UAQMP	Urban Air Quality Management Project
VET	Vehicle Emission Testing
VETTF	VET Trust Fund
WB	World Bank
WHO	World Health Organization

## LIST OF APPENDICES

<b>Appendix</b>	<b>Description</b>	<b>Page</b>
Appendix – A	Questionnaire for the semi structured interview to find the successes, issues and their causes of the VET programme .....	97
Appendix – B	A sample report of Inspection and Monitoring of VET Centers .....	100
Appendix – C	Statistics on VET centers in Sri Lanka .....	105
Appendix – D	Vehicle Emission Testing Database.....	106
Appendix – E	Permission letter for using VET database.....	107



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