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

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(09/9791)

Degree of Master of Science in Project Management

Department of Building Economics

University of Moratuwa
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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.

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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 fleetas 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 procedureand so on. For the improvement of the VET programme the recommendations addressing the three important areas organizational changers, 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,

who have supported me each step of the way of my life.

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LIST OF ABBREVIATIONS

Abbreviation	Description
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_x	Oxides of Nitrogen
O_3	Ozone

Abbreviation	Description
PD	Project Director
PM_{10}	Particulate Matter (particles with an aerodynamic Diameter < 10μm)
$PM_{2.5}$	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_2	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

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