

An aerial photograph of a winding asphalt road cutting through a dense, lush green forest. A small white car is visible on the road, moving away from the viewer. The road curves from the bottom left towards the top right. The forest is composed of various types of trees, creating a rich, textured green canopy.

Sustainable Road Infrastructure Project Implementation in Developing Countries

An Integrated Model

Simon Ofori Ametepey
Clinton Ohis Aigbavboa
Wellington Didibhuku Thwala

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Project Implementation in
Developing Countries**

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Sustainable Road Infrastructure Project Implementation in Developing Countries: An Integrated Model

BY

SIMON OFORI AMETEPEY

Koforidua Technical University, Ghana

CLINTON OHIS AIGBAVBOA

University of Johannesburg, South Africa

AND

WELLINGTON DIDIBHUKU THWALA

University of South Africa, South Africa



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INVESTOR IN PEOPLE

Contents

List of Figures and Tables	<i>vii</i>
List of Abbreviations	<i>ix</i>

Part 1: Sustainability and Road Infrastructure Development

Chapter 1 General Introduction to Sustainable Road Infrastructure Development	3
Chapter 2 Overview of Sustainable Development	9
Chapter 3 Sustainable Road Infrastructure Development	21

Part 2: Models, Theories, and Frameworks for Implementing Sustainable Road Infrastructure Projects

Chapter 4 Evaluation and Assessment of the Sustainability of Infrastructure Projects	43
Chapter 5 Project Implementation Frameworks, Models, and Guidelines for Sustainable Infrastructure	55
Chapter 6 Sustainability Criteria and Indicators for Road Infrastructure Projects	65
Chapter 7 Sustainable Infrastructure Project Financing	81

Part 3: Public Participation, Climate Change Response, and Stakeholder Management in Sustainable Road Infrastructure Development

Chapter 8 Public Participation in Sustainable Road Infrastructure Development	97
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Chapter 9 Climate Change Response in Sustainable Road Infrastructure Development	<i>105</i>
-----------------------------------------------------------------------------------------	------------

Chapter 10 Stakeholder Management in Sustainable Road Infrastructure Development	<i>113</i>
-----------------------------------------------------------------------------------------	------------

**Part 4: Sustainable Road Infrastructure Development:
The Case of Ghana**

Chapter 11 Sustainable Road Infrastructure Development in Ghana	<i>121</i>
------------------------------------------------------------------------	------------

Chapter 12 The Views of Experts in Ghana Through a Delphi Research Study	<i>133</i>
---------------------------------------------------------------------------------	------------

Part 5: The ISRIPI Model

Chapter 13 The Conceptual ISRIPI Model for Developing Countries	<i>159</i>
------------------------------------------------------------------------	------------

Index	<i>173</i>
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List of Figures and Tables

Figures

Fig. 2.1.	The Pillars of SD.	13
Fig. 2.2.	The 5-capital Model (Inspired by Porrit, 2007).	17
Fig. 3.1.	Types of Infrastructure with Examples.	24
Fig. 3.2.	Integrating the Principles of Sustainability in Infrastructure Development.	26
Fig. 3.3.	Types of Project Stakeholders in the Road Infrastructure Sector.	29
Fig. 3.4.	Managing Stakeholders' Interest and Sustainability Requirements.	30
Fig. 3.5.	Processes of SRID.	32
Fig. 13.1.	Integrated SRIPI Conceptualized Model (Model 1.0).	171

Tables

Table 3.1.	Principles of SID.	28
Table 6.1.	CEEQUAL Certification Framework's Criteria.	67
Table 6.2.	CEEQUAL Certification Framework Indicators.	68
Table 6.3.	BE ² ST in Highway Certification Framework's Criteria.	70
Table 6.4.	Envision Certification System Criteria.	70
Table 6.5.	Green Guide for Roads Certification Framework Criteria.	71
Table 6.6.	Greenlites Certification Framework Criteria.	72
Table 6.7.	Greenpave Certification Tool Criteria.	72
Table 6.8.	Greenroads Certification Framework Criteria.	73
Table 6.9.	I-LAST Certification Tools Criteria.	73
Table 6.10.	Invest Certification Framework's Criteria.	74
Table 8.1.	Public Participation Ladder.	100
Table 8.2.	Ladder of Participation.	100
Table 11.1.	Size and Condition of Road Network in Ghana.	125
Table 12.1.	SRIPs' Main Criteria.	137
Table 12.2.	Socio-cultural Sustainability Indicators.	138
Table 12.3.	Economic Sustainability.	140
Table 12.4.	Environmental Sustainability.	141
Table 12.5.	Institutional Sustainability.	142

viii *List of Figures and Tables*

Table 12.6.	Health and Safety.	143
Table 12.7.	Project Management.	144
Table 12.8.	Resource Utilization and Management.	145
Table 12.9.	Engineering Performance.	145
Table 12.10.	Climate Change Response.	146
Table 12.11.	Public Participation.	147
Table 12.12.	Stakeholder Management.	148
Table 12.13.	Factors Causing Varied Understanding of Sustainability.	149
Table 12.14.	Drivers and Motivation for SRIP Implementation.	150
Table 12.15.	Critical Factors Affecting the Implementation of SRIPs.	151
Table 13.1.	Conceptual Model Latent Features.	163

List of Abbreviations

Abbreviation	Definition
ACEC	American Consulting Engineers Council
ADB	African Development Bank
AER	Annual Environmental Reports
APWA	American Public Works Association
ASCE	American Society of Civil Engineers
AU	African Union
BREEAM	Building research establishment's environmental assessment method
CBA	Cost-benefit analysis
CCR	Climate change response
CEEQUAL	Civil Engineering Environmental Quality and Assessment Scheme
CIB	Conseil International du Bâtiment
CO ₂	Carbon dioxide
CSR	Corporate social responsibility
DFR	Department of Feeder Roads
DPs	Development partners
DUR	Department of Urban Roads
EA	Environmental assessment
EIA	Environmental impact assessment
EIAP	Environmental impact assessment procedures
EM	Environmental management
EMP	Environmental management plan
EMU	Environmental management unit
EnS	Environmental sustainability
EP	Engineering performance
EPA	Environmental Protection Agency
ES	Economic sustainability
ESA	Environmental and social assessment
ESMF	Environmental and social management framework

FHWA	Federal Highway Administration
FSD	Forest services division
GDP	Gross domestic product
GHA	Ghana highway authority
GHG	Greenhouse gas
GI	Green infrastructure
GRF	Ghana Road Fund
GSGDA	Ghana Shared Growth Development Agenda
HS	Health and safety
ICE	Institution of Civil Engineers
IDOT	Illinois Department of Transportation
IISD	International Institute for Sustainable Development
INVEST	Infrastructure Voluntary Assessment Sustainability Tool
IQD	Interquartile division
IQR	Interquartile range
IRI	Institute of resilient infrastructure
IRI	International roughness index
IRTBA	Illinois Road and Transportation Builders Association
IS	Institutional sustainability
ISI	Institute for sustainable infrastructure
ISRIFI	Integrated sustainable road infrastructure project implementation
KPI	Key performance indicators
KTC	Koforidua Training Centre
LCA	Life-cycle assessment
LCCA	Life-cycle cost analysis
LEED	Leadership in energy and environmental design
LID	Low-impact development
M&E	Monitoring and evaluation
MCDA	Multi-criteria decision analysis
MEPDG	Mechanistic-Empirical Pavement Design Guide
MoT	Ministry of Transport
MRH	Ministry of Roads and Highways
NEAP	National Environmental Action Plan
NGOs	Non-governmental organizations
OP	Operational policies
PaLATE	Pavement Life-Cycle Assessment Tool for Environmental and Economic Impacts
PEA	Preliminary Environmental Assessment
PM	Project management
PMI	Project Management Institute

PP	Public participation
PPP	Public–private partnership
RID	Road infrastructure development
RMRC	The Recycled Materials Resource Centre
RPF	Resettlement Policy Framework
RUM	Resource utilisation and management
SC	Sustainable construction
SCS	Social and cultural sustainability
SD	Standard deviation
SD	Sustainable development
SDGs	Sustainable development goals
SEA	Strategic environmental assessment
SID	Sustainable infrastructure development
SLCAs	Social life-cycle assessments
SM	Stakeholder management
SMTDP	Sector medium-term development plan
SRID	Sustainable road infrastructure development
SRIPi	Sustainable road infrastructure project Implementation
SRIPs	Sustainable road infrastructure projects
STAG	Scottish Transport Appraisal Guidance
TBL	Triple bottom line
TDR	Transfer of development rights
TIF	Tax incremental financing
TNM-Look	Traffic noise model look up
UK	United Kingdom
UN	United Nations
UNFCCC	United Nations Framework Convention on Climate Change
USA	United States of America
WB	World Bank
WCCD	World Commission on Culture and Development
WCED	World Conference on Environment and Development
WD	Wildlife division
WRC	Water Resources Commission
WSSD	World summit on sustainable development