Integrating Sustainable Development into Briefing and Design Processes of Buildings in Developing Countries: An Assessment Tool

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Buildings and Construction Sustainable Development Objectives

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LIST OF ACRONYMS

BRE Building Research Agency

BREEAM Building Research Establishment Environmental Assessment Method

CERES Coalition for the Environmentally Responsible Economies

CSD Council on Sustainable Development

CSIR Council for Scientific and Industrial Research

CICA Confederation of International Contractors' Associations

DFID Department for International Development

GBC Green Buildings Challenge GBTool Green Building Tool GDP Gross Domestic Product

GEAR Growth, Employment and Redistribution
DEAT Department of Environment and Tourism
DFID Department for International Development
EIA Environmental Impact Assessment
GDI Gender related development index
GEM Gender empowerment measure
GRI Global Reporting Initiative

Human Development Index

HPI -1 Human Poverty Index 1 (for developing countries)
HPI -2 Human Poverty Index 2 (for industrialized countries)

HSRC Human Sciences Research Council ILO International Labour Organisations

IISD International Institute for Sustainable Development

ISEW Index of Sustainable Economic Welfare

LEED Leadership in Energy and Environmental Design

NGO Non Governmental Organisation

PPP Purchasing Power Parity

RDP Reconstruction and Development Programme

SBAT Sustainable Building Assessment Tool SOE State of the Environment Report

UK United Kingdom UN United Nations

HDI

UNCD United Nations Conference on Environment and Development

UNDP United Nations Development Programme
UNEP United Nations Environmental Programme
USGBC United States Green Building Council

WCED International Union for the Conservation of Natures
WCSD World Summit on Systematical Polyslandon

WSSD World Summit on Sustainable Development

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ABSTRACT FOR THE THESIS

Integrating Sustainable Development into Briefing and Design Processes of Buildings in Developing Countries: An Assessment Tool

Submitted by: Jeremy Gibberd Promoter: Roger Fisher

For the degree of: Philosphiae Doctor in Architecture

University: University of Pretoria

Department: Department of Architecture

This study proposes a specification for an assessment tool that integrates sustainable development into briefing and design processes of buildings in developing countries.

The building and construction industry have a significant role to play in supporting sustainable development in developing countries. However until the implications of sustainable development for the building and construction industry in developing countries are understood and interpreted into a plan of action, little progress can be made.

The research proposal aims to make a contribution to knowledge within the field of sustainable development and building and construction in developing countries. The study suggests that an effective way of beginning to integrate sustainable development into building and construction is to make sustainable development an explicit goal during the briefing and design process of the building. The study develops a specification for assessment tool that enables the goal of sustainable development to be interpreted into building and construction objectives and shows how this can be used in the briefing and design processes of buildings.

The study is based on both a qualitative and quantitative approach. Through critical review of literature and inductive analysis key concepts pertaining to sustainability, sustainable development, developing country contexts, assessment frameworks, and building and construction are defined. These are compared and analysed to formulate a specification for an assessment tool. In order to test and validate findings the specification is compared with an existing building assessment tool, the Sustainable Building Assessment Tool.

All hypothesis developed by the study are successfully demonstrated and the study is successful in proposing a specification for an assessment tool that integrates sustainable development into briefing and design processes of buildings in developing countries.

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Key words: Sustainable development, sustainability, developing countries, assessment tools, building, construction, briefing, design.