Infrastructure and the Millennium Development Goals: A Framework for Enhancing the Efficacy of the Role of the Construction Sector
Scope of Presentation

• Introduction
• Background to the Framework
• Need
• Sustainable Infrastructure Development Framework
• Adding economic value
• Adding social value
• Adding environmental value
• Conclusion
Introduction

• Birth of the ‘Green’ Movement: Rachel Carson’s *Silent Spring* (1962)

• ‘Green’ timeline:
  - Governance (1970); Biodiversity (1973); Ozone layer (1974); Indigenous peoples (1977); economics (1982); toxins (1984); poverty (1988); security (1990); Climate change (1992); and Population (1994).
Introduction

- Global Agreements:
  - Habitat
  - Agenda 21
  - MDGs
Background

• CAA Resolution for new millennium:
  – Make sustainable development a core programme;
  – Develop “Design Guidelines for Architects”
Need

• Agenda 21, Chapter 7(G) has two objects:
  – Adopt policies and technologies that support sustainable development; and
  – Enhance the employment-generation capacity of construction
Need

• Construction consumes (Edwards, 2002):
  – Materials, 50% of all resources globally
  – Energy, 45% of energy generated to heat, light and ventilate buildings
  – Water, 40% of water globally for sanitation and other uses in buildings
  – Land, 60% of prime agricultural land lost to farming
  – Timber, 70% of global timber products
Need

• Benefits-to-Resources-Used (BRU) Ratio
• Agenda 21 “new concepts of sustainable economic growth and prosperity”
• Establish the linkage between infrastructure development, economic growth and poverty alleviation
Adding economic value

- Economics – SMME development
- SPC –
  - Material usage
  - Energy usage
  - Waste
  - Transportation
  - Efficiency of use
Adding social value

- Respect local culture and tradition
- Engage local community
- Skill development
- Ensure equity
- Strengthen healthcare
Adding environmental value

- Protect environment
- Enhance biodiversity
- Protect fresh water and ground water
- Conserve land
Sustainable Infrastructure Development Framework

- Theme (consumption and production)
- Sub-theme (material consumption)
- Indicator (ease of deconstruction)
- Goals (reduce resource consumption)
- Strategy (design in a manner that enables the facility to be deconstructed for reuse)
Sustainable Development Guidelines

An Architect's Guide to Designing for Sustainability
A Joint Commonwealth Foundation/Commonwealth Association of Architects Developmental Study
Prepared by the CSIR (South Africa)
Conclusion

• Social and environmental components not current construction strength
• Audit – inspect what you expect
• SIDF could be the middle-ground between infrastructure, economic growth and poverty alleviation
• Improve governance issues
• Share Commonwealth experience