Second International Conference on Sustainable Development through Quality Infrastructure Investment (QII)

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Elements to ensure Quality Infrastructure

- Economic Efficiency
- Inclusiveness
- Safety and resiliency
- Convenience and comfort
- Sustainability
Economic efficiency
– reduce lifecycle costs, etc.

Efficiency, Durability, excellent O&M capabilities

Construction Management (Use of ICT, strict adherence to deadlines, handling of plan changes, etc.)

Reduce environmental burden and socials costs (reduce traffic congestion costs, design that requires little land expropriation)
Inclusiveness

- Improve welfare and economy for citizens, including the poor
- Balance rural and urban development
- Gender Considerations
- Accessibility
Safety and Resilience

Resilience against natural disasters (Durability, system back-ups that can be quickly restored)

Operational safety, Construction site security
Harmony with nature

High performance maintenance and optimized operation

Sustainable management
Convenience and Comfort

Service reliability

Compatibility with culture and lifestyle customs

Reduce user burden through an integrated system (ex. integrated station development)

Ease of operation and maintenance (system management including operability and ICT equipment use)
Contribution to the local society and economy

Development of local human resources for infrastructure operation

Transfer of working culture such as meeting a due date.

Local job creation and giving back the benefits to the local community

Contribution to the local society and economy

Sharing of experience as a forerunner of emerging issues
Ise-Shima Five principles of “Quality Infrastructure Investment”

- Principle 1: Ensuring Economic Efficiency, Reliable Operation, Sustainability, Safety and resilience
- Principle 2: Contribution to Local Communities
- Principle 4: Alignment with National and Regional Strategies
- Principle 5: Resource Mobilization
Comparison of Life Cycle Cost” roughly estimated in Japan

- Re-painted steel bridge using ordinary steel.
- Unpainted steel bridge using weathering steel.

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<th>Years in service (No. of repainting)</th>
<th>Initial Construction</th>
<th>Long-term cost index</th>
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● OVERVIEW

✓ Suspension bridge (772m) over the Congo
✓ Completed in 1983 by ODA loans from Japan
✓ Dehumidification system for corrosion prevention, in 2014
OVERVIEW

✓ Open: 1964, when Tokyo Olympic was held
✓ Maximum Speed: 320 km per hour
✓ Safety: There have been no fatalities of on-board passengers caused by a train accident.
✓ Punctuality: The average delay time is less than 1 minute.
○ OVERVIEW

✓ Total extension : 23 km
✓ Project period : From November (2013) To August (2016) ; 33 months
✓ Contract : Railway System and 10 year Maintenance Business
The Ise-Shima principles and the Five elements focus on not only a construction phase but also throughout life-span of infrastructure.

All elements (Economic efficiency, Inclusiveness, Safety and Resilience, Sustainability, Convenience and Comfort) are including O&M phase.

O&M requires local capability, thus contribution to local society and capacity building is important.

O&M should be much more focused from the designing phase and in the procurement process.