Effective Rural Road Asset Management

Rob Geddes - Team Leader, GEM
Economic Growth through Effective Road Asset Management (GEM)

Purpose of the Project

To achieve economic and social benefits for local communities as a result of improved performance in rural road asset management.
It is not our wealth that built our roads, but it is our roads that built our wealth.

— John F. Kennedy
Mr. Nelson ‘Rolex Maker’
Before improvement to the road he would earn 4 bags of wheat flour a day but now he earns 6 bags a day, and 8-10 bags on market days.
- The road network is the biggest single asset in most countries
- Replacement cost in billions of dollars
- The asset needs to be carefully managed.
What is asset management?

“systematic and coordinated activities and practices which an organization adopts to optimally and sustainably manage its assets and asset systems, their associated performance, risks and expenditures over their life cycles for the purpose of achieving its organizational strategic plan”.

British Standards Institution - Publicly Available Specification (PAS)
Evaluation of road agency performance in AM must consider all the inter-related components.
# GEM Performance self assessment questionnaire

## Building Block 3: Financial

**Key objective:** The achieve stable, adequate and sustainable funding for road maintenance.

<table>
<thead>
<tr>
<th>QUESTION</th>
<th>YES/NO</th>
<th>JUSTIFICATION/COMMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.6 (a) Does the district operate an accounting system?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.6 (b) Are the accounts audited annually?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.6 (c) Are the accounts published annually?</td>
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</table>

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<table>
<thead>
<tr>
<th>Building Block</th>
<th>Max. Possible Score</th>
<th>Agency Score</th>
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</thead>
<tbody>
<tr>
<td>External</td>
<td>4.0</td>
<td>1.0</td>
</tr>
<tr>
<td>Institutional</td>
<td>4.0</td>
<td>1.0</td>
</tr>
<tr>
<td>Financial</td>
<td>4.0</td>
<td>0.3</td>
</tr>
<tr>
<td>Managerial</td>
<td>4.0</td>
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</tr>
<tr>
<td>Technical</td>
<td>4.0</td>
<td>1.4</td>
</tr>
<tr>
<td>Operational</td>
<td>4.0</td>
<td>2.3</td>
</tr>
</tbody>
</table>
Road Asset Management Building Blocks Radar Diagram

External
4,0
3,5
3,0
2,5
2,0
1,5
1,0
0,5
0,0

Operational
Institutional
Technical
Financial
Managerial
Road Asset Management Pyramid - Weighted Scores

Operational

Technical

Managerial

Financial

Institutional

External

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Road Asset Management Pyramid - Weighted Scores

Operational

Technical

Managerial

Financial

Institutional

External

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<table>
<thead>
<tr>
<th>Building Block</th>
<th>Agency Score</th>
<th>Weighting</th>
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<td>0.24</td>
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<tr>
<td>Institutional</td>
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<td>0.20</td>
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<tr>
<td>Financial</td>
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<td>0.17</td>
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<tr>
<td>Managerial</td>
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<tr>
<td>Technical</td>
<td>1.4</td>
<td>0.13</td>
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<tr>
<td>Operational</td>
<td>2.3</td>
<td>0.11</td>
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<tr>
<td>Rural Road Asset Management Assessment Score</td>
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<td>1.00</td>
</tr>
<tr>
<td>Rural Road Preservation Index (RRPI)</td>
<td>0.25</td>
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</table>
Rural Roads Preservation Index (RRPI)

Definition:
“a measure of the adequacy of policies, institutions and systems for the preservation of rural roads”.

<table>
<thead>
<tr>
<th>Rating</th>
<th></th>
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<tbody>
<tr>
<td>0 - 0.25</td>
<td>Minimum</td>
</tr>
<tr>
<td>0.25 - 0.5</td>
<td>Core</td>
</tr>
<tr>
<td>0.5 – 0.75</td>
<td>Mature</td>
</tr>
<tr>
<td>0.75 – 1.0</td>
<td>Advanced</td>
</tr>
</tbody>
</table>
Road Condition

Measure of road preservation (Road Condition Index)

RA maturity to undertake RAM
Road Condition Indices

Based on conventional visual condition survey (degree and extent of defects)

1. Functional Index
2. Condition Index (Pavement)
3. Condition Index (Formation)
Rural Roads Asset Management Indices

- Rural Road Preservation Index (RRPI)
- Road Condition Indices
- Index of climate resilience

These indices can be used to:
1. Monitor changes in performance of roads agencies
2. Compare the performance of roads agencies.

The indices support the Rural Access Index

[Sum4All Initiative – Sustainable Development Goals]

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Participating roads agencies

- Tonkolili District (Sierra Leone)
- Chongwe District (Zambia)
- Uganda National Roads Authority
- Kamuli District (Uganda)
- Western Cape (South Africa)

Project Implementation Team

Agencies:
- Report their performance
- Compare progress
- Share experiences
Technical Assistance
• Workshops with participating agencies
• Identification of AM shortcomings
• Preparation of Action Plans
• Improve AM systems
➤ Do more with resources already available
No maintenance on GEM project roads (3 districts) in 2017

Why? – no funding

Why no funding? - reasons outside the control of the agency.
External Communications Component

- Collecting transport indicators in villages

- Availability of transport
- Cost of transport
- Case studies

Road condition

Political decision makers

Increased support for rural roads

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Summary:
• Holistic view of road asset management
• Build capacity in roads agencies for improved performance in AM
• Strengthen links between roads agencies, policy makers, road users and communities.

GEM is developing tools to facilitate this process.
Thank you for your attention

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