Long Term Pavement Performance Monitoring Programme: Progress and Challenges

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Background

- Trial sections were built under AfCAP and other programmes;
- Most of the trials include innovations in pavement design and/or surfacing;
- What lessons can be learned for refining national standards and specifications?
- How can the responsibility for learning the lessons be taken up by national road agencies in a sustainable manner?
Outline of presentation

- Objectives of the project
- Participating countries
- Typical site activities
- Tools for data collection and reporting
- Using the data – capacity development for the RRCs
- Progress report
- The way forward.

Overall objective

- Establish appropriate, cost-effective standards and specifications for Low Volume Roads using performance-based data collected from existing trial/demonstration road sections.

Specific objectives

- Provide capacity building and mentorship support to RRCs for:
  - monitoring of road sections; and
  - analysis of the data and reporting of the results.
- Further develop the Regional Guidelines for the Establishment and Monitoring of Experimental and LTPP Sections.
Participating Countries

- Ethiopia
- Kenya
- Mozambique
- Malawi
- Myanmar
- Uganda
- Tanzania
- South Sudan
- DR Congo
LTPP Research Process

Stage 1
Identify research needs

Stage 2
Construct trial sections

Stage 3
Monitor performance

Stage 4
Analyse performance data

Stage 5
Modify national standards

Cost effective alternatives to gravel roads
Stage 2: Construct trial sections

Stage 3: Monitoring Performance

- Six-monthly data collection (wet/dry).
- Local firms engaged by ReCAP to collect the data in all countries except Myanmar and Tanzania.
- Some data collection has been sub-contracted back to the road agency or central materials laboratory.
- ReCAP providing training in on-site data collection activities.
Tools for data collection and reporting

Monitoring guideline  Raters’ Guidelines  Standard Report Format
General Guideline Document:
• Designing an experiment
• Sampling and testing materials
• Design of monitoring
• Monitoring techniques
• Analysis and reporting.

LTPP Section layout

Raters’ Guidelines
- assessing the degree and extent of defects:
  • Surfacing
  • Structural condition
  • Functional aspects.
Based on TMH 9 – (rating 1 to 5) with additional guidance on identifying causes of defects.
To:
  • determine a Visual Condition Index (VCI) and
  • explain performance.
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<tr>
<th>Extent</th>
<th>Description</th>
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Or extensive occurrence over a limited portion of the length:

Extent = 5: extensive occurrence

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Who will use the tools and the data?

- RRCs and their consultants will use the guidelines for the monitoring;
- RRCs will use the data to:
  - determine which technical solutions are successful and understand the causes of failures (Stage 4);
  - develop cost-effective standards and specifications for LVRs (Stage 5);
  - identify new research needs (Stage 1).
Capacity building activities

- ReCAP providing support to the RRCs:
  - Assessment of training needs;
  - Identify training providers and courses;
  - Identify research projects that will use the data;
  - Carry out analysis and reporting; and
  - Develop recommendations for improved standards for LVRs.
Project constraints

- Unavailability of data (construction and maintenance costs);
- Some trial sections are now carrying heavy traffic;
- Some sections have failed - due to traffic or lack of maintenance;
- Time (ReCAP scheduled to close in 2020);
- Some RRCs are not well established.
# Progress with data collection and reporting

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<th>Country</th>
<th>Prior</th>
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The way forward

- Data collection, reporting with support from ReCAP until early 2020;
- RRCs continue monitoring and data analysis using their own resources;
- RRCs need to be more established:
  - Strong policy supporting research
  - Secure funding for research
  - Staff with relevant qualifications and experience (and with a passion for research).
Thank you for your attention

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