Some Key Principles of Sustainable Rural Access

Dr Jasper Cook
Chief Scientific Adviser, ReCAP

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Some Key Principles of Sustainable Rural Access: The Research Links

- Background
- Key Issues
- ReCAP in Context
- The Workshop
The Vientiane Declaration

The Declaration from 23 countries at the 10th Regional Environmentally Sustainable Transport (EST) Forum in Asia speaks to the link between research and improved rural access by a requirement to “utilize the outputs of research for innovative methodologies to provide more sustainable and appropriately-engineered rural connectivity.”
RURAL TRANSPORT contributes to:

- SDG 1
- SDG 2
- SDG 3
- SDG 4
- SDG 5
- SDG 6
- SDG 8
- SDG 9
- SDG 11
- SDG 13

ReCAP
Research for Community Access Partnership
Improved Rural Transport Drives Sustainable Rural Development and National Growth

Better Rural Transport is Key to Food Security

Poor Rural Transport Condemns the Poor to Stay Disconnected and Poor

Additional budgets and commitment to build and maintain LVRR networks for sustainable rural transport services

Local Solutions for Local Challenges
The key role of research in support of the SDGs and associated declarations can be summarised as providing high quality relevant data and evidence to inform the rural transport practice and to deliver the essential innovations and technical solutions to overcome the rural access challenges.
SuM4All – Sustainable Mobility for all

A global multi-stakeholder partnership that acts collectively to help transform the transport sector.

Its ambition is to make mobility: (i) equitable (ii) efficient (iii) safe and (iv) green

Equitable—ensuring that everyone has access to jobs and markets through good quality transport regardless of their economic or social status
A Basic Principle

Transport is fundamental to economic growth and the delivery of basic services.

Transport is an essential element in ensuring isolated communities are not left behind in development.
The Access Continuum

Access Provision

Sustainable Resilient Access

Access Services (Transport Services)

Access Preservation
Looking in particular at Access Provision there a number of key issues that ReCAP as a whole has been and continues to be involved in.
A Basic Principle

Low Volume Rural Roads – the transport of people, their goods and freight and to achieve that they must be \textbf{fit for that purpose} throughout their design life.
Fit for purpose – neither under-designed nor overdesigned.
Road task – includes the vehicles (numbers and type) and people using the road. Directly related to road geometry.
Bridges—also must be fit for purpose
Role of Research: Role of ReCAP

- Evidence
- Innovation
- Guidance

Rural Access
Innovation

New approaches:
- Appropriate designs
- Climate resilience
- New Technologies
- Agricultural access
ROAD TASK

SUSTAINABLE WHOLE LIFE PERFORMANCE

ENGINEERING ENVIRONMENT
- Climate
- Hydrology
- Terrain
- Materials Properties
- Subgrade
- Traffic
- Construction Regime
- Maintenance Regime

OPERATIONAL ENVIRONMENT
- Policies
- Classification
- Standards
- Specifications
- Funding Arrangements
- Contracting Regime
- "Green" Environment

LOCAL RESOURCE AND DESIGN ENVIRONMENT
Available materials, labour, design skills, enterprises, manufacture, etc.
Appropriate Designs

Road Design and the Physical Environment: Appropriate Design Options for Steep Gradients; an example from Ghana

1st Inter-Regional Implementation Meeting 2017

20th to 22nd November 2017
Speke Resort, Munyonyo, Uganda

Dr Joseph Anochie-Boateng, CSIR, South Africa
Design: Outside the Box – Outside the Alignment

Land system focus

Land Use Focus

Geotechnical Focus

Engineering Focus
Local Road Networks and Climate Resilience

Climate impacts all roads, but given the lower design standards required for rural roads, their vulnerability is significantly higher than for main roads and the climate strengthening costs can comprise a larger proportion of the costs of rural roads than for higher volume roads.
Much smarter engineering is required
Resilience What Do We Want?

Researching guidance based on road task, sustainable service level and budget. We need a balance between

This

or This
Rural Network connectivity?

The First Mile
The project is concerned with the cost-beneficial improvement of ‘First Mile’ access and the transport services associated with transferring harvest produce on the initial stages of movement from the farm to established road access.
Innovation

Remote sensing in planning for rehabilitation or spot improvement.
Remote Sensing – Small Drones

UAVs, or drones, can be useful and flexible tools to assist with many aspects of research from collecting basic data to assessing safety condition.
<table>
<thead>
<tr>
<th>Time</th>
<th>Presentation</th>
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<tbody>
<tr>
<td>11.00</td>
<td>Planning and Prioritisation of Rural Access – An Example from Bangladesh</td>
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<tr>
<td>11.30</td>
<td>Road Design and the Physical Environment: Appropriate Design Options for Steep Gradients; an example from Ghana</td>
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<tr>
<td>12.00</td>
<td>Use of Locally Available Materials: Cinder Gravel Use in Ethiopia</td>
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<td>Time</td>
<td>Workshop Debate Questions</td>
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<tr>
<td>13.30</td>
<td><strong>1. LVRR Design:</strong></td>
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<td>LVRR research has produced significant outputs in terms of more cost-effective rural road design – what is the priority for areas of research to concentrate moving forward:</td>
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<td>14.15</td>
<td><strong>2. Local Resources for Local Solutions:</strong></td>
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<td>Use of local resources in the construction of LVRRs is frequently identified as an important issue. What are the key local resources?</td>
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<td>15.30</td>
<td><strong>3. Climate Impact:</strong></td>
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<td>Can climate threats be effectively countered by employing current good engineering practice and /or effective resilience to climate threats requires new approaches and new designs.</td>
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<td>16.15</td>
<td><strong>4. LVRR Research Uptake</strong></td>
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<td>How can we best ensure good research is taken up and applied?</td>
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<td>1700</td>
<td><strong>5. Open summary debate on all above issues</strong></td>
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<tr>
<td>1730-</td>
<td>Overall Summary</td>
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The Access Continuum

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Access Services (Transport Services)

Access Preservation
Thank you for your attention

www.research4cap.org

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