



AfCAP
Africa Community Access Partnership



Economic Growth through Effective Road Asset Management

Progress Report No. 1

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ReCAP Completion Report Template

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Abstract

The Africa Community Access Partnership (AFCAP) is providing technical assistance to achieve improvements in asset management performance on selected rural roads networks. The participating countries are Sierra Leone, Uganda and Zambia, with the Western Cape of South Africa providing an example of “best practice in rural road asset management”.

This report provides a summary of project activities and progress in the first quarter of 2017. During the reporting period, Economic Growth through Effective Road Asset Management (GEM) Advisory Team members visited the participating countries for the purpose of assisting the road agencies to finalise the collection and collation of the baseline data for the project, undertake gap analysis exercises based on the Asset Management Pyramid, commence the formulation of Asset Management Policies and progress data analysis. Fruitful meetings were held with the project teams in each country.

The baseline assessment of asset management performance for each participating road agency has been adjusted following the in-country workshops held in March. The workshop discussions provided an opportunity for greater consensus between the agency staff and the GEM advisors.

The Asset Management (AM) performance assessment shows significant gaps in the pre-requisites for sustainable road preservation in the three project countries. Major weaknesses were identified in the external, institutional and funding building blocks.

The project team has developed a new composite index of road asset management performance known (initially) as the Road Asset Preservation Index (RAPI). The RAPI was calculated for each of the three agencies based on the March 2017 assessment.

After the submission of the Baseline Study Report, it was agreed that the Uganda National Roads Authority (UNRA) would participate in the project as a separate road agency alongside Kamuli District. This will enable comparisons between a centralised approach to rural road management and a decentralised approach. Integration of UNRA will be achieved through a visit of the GEM Advisory Team in May.

During the next quarter, the GEM Advisory Team will continue to offer technical assistance to the project countries in various aspects including preparation of the AM Policies, completion of data analysis, asset valuation, selection of training courses, works programming and monitoring.

The GEM Advisory Team will conduct a workshop at the Technology Transfer (T2) Conference in Livingstone, Zambia, between 8th and 10th May 2017.

Acronyms, Units and Currencies

\$	United States Dollars
AFCAP	Africa Community Access Partnership
AM	Asset Management
ARMFA	African Road Maintenance Fund Association
ASCAP	Asia Community Access Partnership
BADEA	Arab Bank for Economic Development in Africa.
CDS	Civil Design Solutions
DFID	Department for Further International Development
DM	District Municipality
GDP	Gross Domestic Product
GPS	Global positioning system
IAMM	Infrastructure Asset Management Manual
ILO	International Labour Organization
IQL	Information Quality Level
IRI	International Roughness Index
LVR	Low Volume Road
MLG	Ministry of Local Government
NRFA	National Road Fund Administration
PMU	Project Management Unit
PO-RALG	President’s Office – Regional and Local Government
RAI	Rural Access Index
RAPI	Road Asset Preservation Index
RAMMI	Road Asset Management Maturity Index
RDA	Road Development Authority (Zambia)
ReCAP	Research for Community Access Partnership
RI	Roughton International
SDG	Strategic Development Goal
SLRA	Sierra Leone Roads Authority
UK	United Kingdom (of Great Britain and Northern Ireland)
UKAid	United Kingdom Aid (Department for International Development, UK)
UoB	University of Birmingham
UNRA	Uganda National Road Authority

Key Words

Asset Management, Rural Roads, Maintenance

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1 Introduction

1.1 Background to the Project

Cardno Emerging Markets is managing a programme of Research for Community Access (ReCAP) on behalf of the Department for International Development (DFID). The programme includes research and capacity building activities in Africa (Africa Community Access Partnership – AfCAP) and Asia (Asia Community Access Partnership – AsCAP). Cardno has signed a contract with Civil Design Solutions to provide consultancy services for the delivery of a regional research project on improved management of rural roads.

The project is known as ‘Economic Growth through Effective Road Asset Management – GEM’ and is initially being implemented in sub-Saharan Africa as part of AfCAP. Sierra Leone, Uganda, Zambia and the Western Cape are participating in the project, but the research process and outcomes are being shared with other AfCAP-participating countries and representatives from some AsCAP countries have also benefited from outputs from this project. If the project is successful it is expected that the research process will be rolled out on a wider basis in Africa and Asia. The African Road Maintenance Fund Association (ARMFA) will provide an oversight role and a possible longer term institutional home in Africa. The Implementation Phase of the project commenced in July 2016 and will run until the end of 2018.

1.2 Purpose of the Project

The purpose of the project is to achieve economic and social benefits for local communities as a result of improved performance in road asset management.

The ultimate beneficiaries of the project are rural communities in sub-Saharan Africa.

1.3 Objectives of the Project

The objectives of the project are as follows:

1. Review literature and reports on existing and recent road management and maintenance programmes and identify ‘what works’ and ‘what doesn’t work’ in the type of environment likely to be encountered in the project area.
2. Develop a framework for measuring performance in road asset management appropriate to sub-national rural road networks and apply it in selected project areas.
3. Develop simple and appropriate tools for monitoring road condition and apply them in the project areas.
4. Develop simple indicators of economic and social impact of rural roads and monitor them in the project areas.
5. Achieve incremental (and measurable) improvements to asset management performance in the project areas over a three-year period.

1.4 Approach

The approach to the project is intended to foster self-reliance in road agencies in the project areas and encourage greater accountability to road users and other sector stakeholders. It provides flexibility and space for the participating road agencies and their stakeholders to determine their own destinies. The approach focuses more on improved performance in road asset management than on any specific or pre-conceived road asset management systems or institutional, management and funding arrangements. Support to this process is being provided through demand-led technical assistance funded by UK Aid through AFCAP.

1.5 Measurement of Asset Management Performance

Performance in rural road asset management is being monitored against the key building blocks for sustainable asset management as follows:

- External environment (including political support)
- Institutional arrangements
- Funding
- Management structures
- Technical capacity
- Operations.

Baseline data in road asset management for each of the participating countries relative to the building blocks was collected in the period from September 2016 to February 2017. This included measurements of the road network condition, the impact of the road condition on the rural economy and social well-being, and a self-assessment of road agency performance. These measurements will be repeated annually for comparison with the baselines presented in this report. This will enable a qualitative analysis to be undertaken of road agency performance under each asset management building block, and the relative impact in terms of social and economic outcomes on the communities that are reliant on the project roads.

The establishment of the baseline showed that significant gaps exist in pre-requisites for sustainable road preservation in the three project countries: Sierra Leone, Zambia and Uganda. Major weaknesses were reported under the external, institutional and funding building blocks. The Western Cape's situation is in contrast with the other participating areas, as their asset management approach is in a more mature state. The results of the baseline survey are included in the Baseline Study Report (dated 27th April 2017).

1.6 Implementing Partners

The project is being implemented by the participating countries. Representatives of the participating countries meet annually in the Project Implementation Team (PIT) The representative agencies are as follows:

Uganda:

Uganda National Roads Authority: Dr Mark Henry Rubarenzya and Dr Rodgers Mugume

Kamuli District: Eng Grace Mulondo

Zambia:

Roads Development Agency: Eng Presley Chilonda and Eng Victor Miti

Chongwe District: Eng. Peter Banda

Sierra Leone:

Sierra Leone Roads Authority: Eng Tamba Amara

Tonkolili District: Eng Sallieu Konneh

Western Cape:

To be advised¹.

1.7 Advisory Team

The CDS team that is supporting the implementation of the project is as follows:

- Team Leader: Rob Geddes
- Road Maintenance Expert: Kingstone Gongera
- Road Condition Monitoring Expert: Charles Bopoto
- Rural Transport Economist: Camilla Lema
- Institutional and Financing Expert: Mike Pinard
- Other Technical Experts including Gerrie van Zyl.

The University of Birmingham is providing expert support to the project under the guidance of Dr Michael Burrow. Two UoB PhD candidates are using the GEM project for their research projects, namely Robert Kakiiza (Uganda) and Peter Kome (Sierra Leone).

1.8 Purpose of this Report

This report presents a summary of activities undertaken and progress achieved in the first quarter of 2017 (January to March).

¹ Due to recent management changes in the Western Cape government it is not clear who the point of contact will be for the GEM project.

2 Summary of Progress and Outcomes

2.1 Activities undertaken in the Quarter

The following activities were undertaken during the reporting period:

- Visits to project countries to assist in finalisation of collection of baseline data
- Preparation of the Baseline Study Report
- Visit to project countries to assist in the formulation of Asset Management Policy Statements through stakeholder workshops,
- Assisting project countries on technical matters such as data analysis, programming maintenance works and monitoring implementation.

2.2 Country Visits Timings and Objectives

Two series of visits were made by members of the GEM Advisory Team to the project countries as follows:

2.2.1 Baseline Visits

- Sierra Leone - 17th to 21st January 2017,
- Zambia – 24th to 26th January 2017,
- Uganda - 27th to 31st January 2017.

The objectives set for the baseline visits were as follows:

- To finalize the baseline data for the road inventory, road condition surveys and the socio economic data,
- Finalize the 2017 work plan on roads selected for the GEM project,
- Identify gaps in technical capacities and plan for the training.

Kingstone Gongera, Charles Bopoto and Camilla Lema participated in these visits.

2.2.2 Technical Assistance Visits

- Sierra Leone - 7th to 12th March 2017,
- Zambia – 19th to 24th March 2017,
- Uganda - 26th to 31st March 2017

The objectives set for the technical assistance visits were as follows:

- Identify the gaps in the baseline data collected by participating countries and review the responses to the questionnaire with the country teams,
- Finalize the Uganda project approach using data from the two agencies, district and national,
- Assist road agencies to draw up action plans for 2017,
- Assist the participating countries in formulating Asset Management Policy Frameworks.

Kingstone Gongera and Charles Bopoto participated in these visits. They enabled follow-up to the “Baseline” visits carried out in January, the findings of which are contained in the Baseline Study Report. The Baseline Study Report includes a summary of initial Baseline Data collected by the four participating regions, progress on all project objectives, and a preliminary analysis of socioeconomic baseline data.

2.3 Country Visits Outcomes

2.3.1 Workshop Outcomes and Action Plans

The outcome of the Policy Workshops and the Action Plans developed during the visits are summarised in the Annexes. Where there is missing information from the tables this indicates that the workshop participants were not ready or able to provide it. The participating agencies were encouraged to complete the tables by themselves and as soon as they can, and to use them as management tools to ensure efficient uptake of identified improvements to their road asset management.

The Policy Workshop outcome will be used by each agency as the basis for developing an Asset Management Policy Framework in the form of a one-page Statement. The GEM Advisory Team will continue to assist the agencies in this process. UNRA will be included in the process from May 2017.

2.3.2 Sierra Leone

The advisory team met with the Chairman of Tonkolili District Council together with councillors and council staff. The Chairman assured the team of their continued support for the project and expressed gratitude for the support rendered through the project. The programme for the remainder of the week was discussed and agreed.

Working sessions were held with the Tonkolili district staff and SLRA engineers. During the working sessions, responses to the questionnaire were discussed in detail and adjustments to the responses made. A final baseline for the project was agreed upon, reflecting a common understanding of the questionnaire and responses. The outcome was plotted on the asset management pyramid providing a diagrammatic representation of the assessment.

During the March 2017 visit the GEM team conducted an AM Policy Workshop with the Tonkolili council staff, councillors and chairman to assist the council to establish a draft Asset Management Policy to support the management of road infrastructure in Tonkolili. This involved an interactive session using a template provided by the GEM team. The output of the session is included in **Annex A**.

The outcomes of the visit proceedings were summarized into an Action Plan for the district. Timelines for different activities were drawn and responsibilities assigned. The Action Plan is included in **Annex A**.

2.3.3 Zambia

The GEM advisory team met with the AfCAP Country Focal Engineer, Eng. Thompson Banda, at the RDA and briefed him about the purpose of the visits.

In Chongwe District the team met with the newly appointed Mayor of Chongwe. The district has been upgraded to municipal status and the administrative structure has been changed in line with the new status. The council will be headed by a Mayor, supported by a Town Clerk (formerly District Administrative Officer). The Mayor warmly welcomed the GEM team and pledged his support for the project.

The GEM team conducted a technical training workshop with the Zambia team comprising RDA and district staff. The interactive session analysed responses to the self-assessment questionnaire and agreed on a common outcome by adjusting the answers to reflect the agreed position.

The GEM team conducted a working session with members of the Chongwe municipality roads committee to draft guidelines for the production of an Asset Management Policy. The session was productive and resulted in a draft policy document. The outcome of the workshop is included in **Annex B**.

The visit proceedings provided milestones for an Action Plan for 2017 (see **Annex B**).

2.3.4 Uganda

The GEM Team met with the Chief Administrative Officer for Kamuli District and explained the purpose of the visit. The team informed him of the workshop session with the council roads works committee to draft an Asset Management Policy. The Chief Administrative Officer assured the team of his commitment and support to the GEM project.

The team later had a working session with the roads staff discussing the self-assessment questionnaire and finding common ground on the responses. The session ended with an agreed position after carefully analysing each question and the assessments which had been done by the district and the GEM advisory team.

A workshop was held with the roads works committee and the council Chairman. The session was lively and interactive. The responses from the participants were captured on the template and will form the basis for drafting the Asset Management Policy. The result of the workshop is included in **Annex C**.

Based on the outcome of the proceedings during the week, an Action Plan for 2017 was prepared (see **Annex C**).

2.4 Road Asset Preservation Index

In order to establish a single indicator of AM performance, the project is developing a Road Asset Preservation Index (RAPI). The RAPI is a composite measure of the performance across the six AM building blocks.

Through discussions with the agencies in the participating areas it was realised that the building blocks contribute to different extents to achieving satisfactory asset management

performance. Therefore, it was necessary to assign weightings to each building block. As a first step in this process, and subject to further discussions and refinement with the roads agencies, the External block has been given the highest weighting of 6, while the Institutional, Financial, Management, Technical and Operational blocks have been given weighting of 5, 4, 3, 2, and 1 respectively. The weightings were then converted to coefficients by dividing the weighting by the sum of all of the weightings. The coefficient was then multiplied by the self-assessment questionnaire score for each building block. The sum of these results is multiplied by 4 to obtain the RAPI. The maximum value for the indicator is 4. The level of maturity is assessed as follows:

0 to 1: Not developed

1 to 2: Minimum

2 to 3: Core

3 to 4: Mature

4: Advanced

The calculation of the RAPI for the three current participating areas is given in Annex D. The summary of the results is as follows:

- Chongwe District, Zambia: 1.0 (Not Developed)
- Kamuli District, Uganda: 1.5 (Minimum)
- Tonkolili District, Sierra Leone: 1.4 (Minimum)

The RAPI is a new concept that will be further developed as the project progresses. It has been suggested that a more appropriate term would be the “Road Asset Management Maturity Index (RAMMI)”, or it may be necessary to have two indices: one that measures maturity and one that measures actual performance. The process for calculating the index would be similar, but the weightings on the building blocks would be different.

The next step in this process is to establish calculated weightings for each building block. It is expected that each road agency may have different weightings due to different conditions in each country, and therefore its own RAPI/RAMMI base. If this is the case, it will be difficult to compare the indicator values between different road agencies. (However, progress in each country will be measurable from the baseline).

2.5 Discussion and Recommendations

The outcome of the three workshops in the participating countries provided a clearer baseline for the three countries. The assessment of the baseline of performance self-assessment in each project area has been adjusted from the Baseline Study findings as a result of the March 2017 visits. The results are summarised in the radar diagrams below. They represent more of a consensus between the agencies and the AT than was reported in the Baseline Study Report, which included the separate “Agency Score” and “Advisory Team Assessment”.

It is noted that changes to the self-assessment scores, as shown in the radar diagram, do not signify changes to the asset management policies or systems. The changes are due to a better understanding of how the questions in the self-assessment questionnaire should be answered. The development of the questionnaire is a key output of the project, and further modifications to the questionnaire are expected ahead of the next round of self-assessments in late 2017 (see the recommendations of the Baseline Study Report).

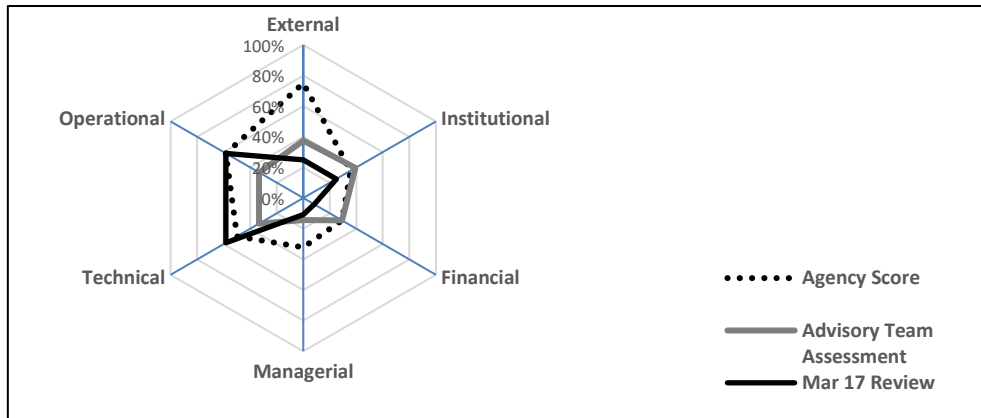


Figure 2.1: Chongwe District (Zambia)

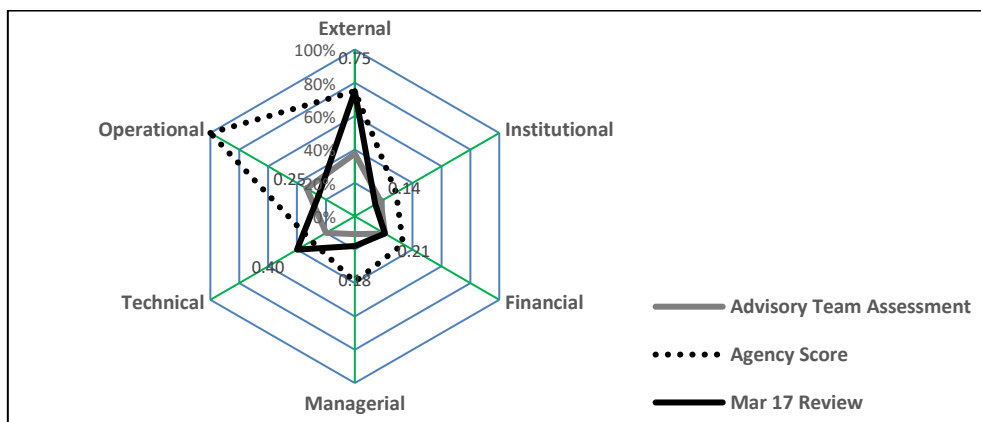


Figure 2.2: Kamuli District (Uganda)

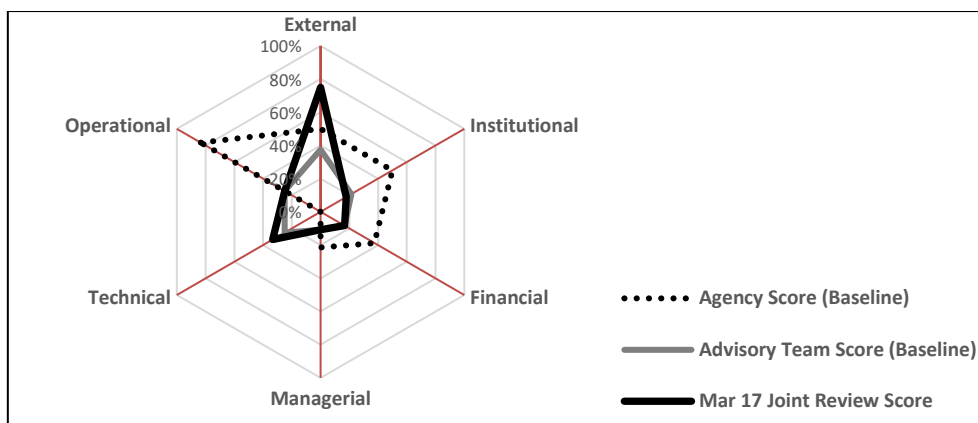


Figure 2.3: Tonkolili District (Sierra Leone)

The workshop discussions supported the recommendation of the Baseline Study that the self-assessment questionnaire requires revision. For example, more questions need to be developed for the External Building Block so that it adequately captures important aspects affecting the external environment.

The district council engineers and their staff need specific training to address the gaps identified during the baseline study. Part of the training can be done within the district by identifying capable personnel in the relevant ministries, departments or agencies where the required skills are found within the government institutions. The GEM team will continue to provide training on technical and managerial issues during their periodic country visits.

In Uganda, after meeting with the AFCAP country representative and the UNRA Director Maintenance, the team agreed that there was a need to treat UNRA as a separate entity to Kamuli District for district road management. This recommendation has subsequently been endorsed by AfCAP management. It will involve additional visits of the GEM team to Uganda to work with UNRA on their asset management practices.

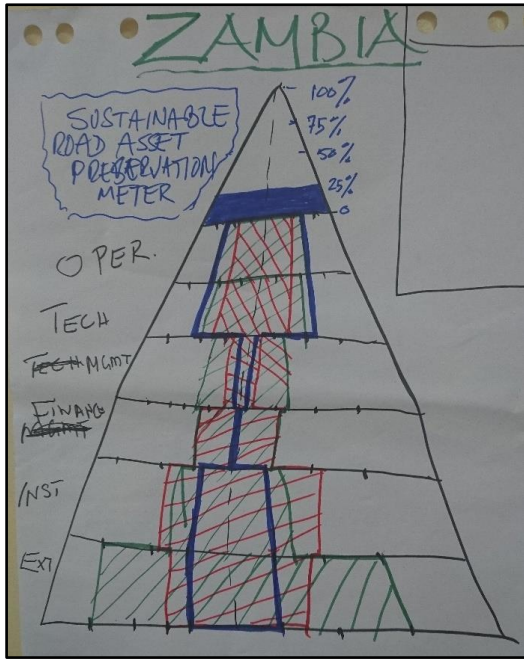
2.6 Country Visit Photographs



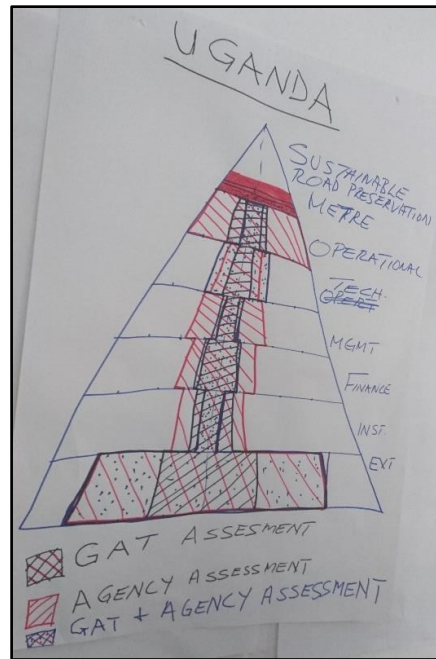
AM Gap Analysis Tonkolili District



Tonkolili District Engineer and Councillor



AM Gap Analysis Result, Chongwe



AM Gap Analysis Result, Kamuli



AM Policy Workshop Participants, Kamuli District



AM Policy Workshop Participants, Chongwe District

3 Planned Activities for Next Quarter

3.1 Team Activities

The following activities will be undertaken in the period April to June 2017:

- Activities in each of the participating districts to meet the targets of the Action Plans.
- Visit of GEM Advisory Team to Uganda. The following activities will be carried out:
 - Conduct meetings with senior staff at UNRA Head Office responsible for rural roads,
 - Visit two or three UNRA regional stations to obtain an understanding of maintenance operations and resourcing,
 - Review UNRA AM self-assessment and assist in achieving consensus on scores under each building block,
 - Assist UNRA to identify key gaps in AM performance and to prepare an Action Plan to start addressing the gaps.
- GEM workshop at the Technology Transfer Conference in Livingstone, Zambia, from 8th to 10th May.
- GEM Advisory Team meeting in Livingstone.
- Support to the participating countries through input from home stations including the following:
 - Receive and consider requests for training from project countries,
 - Assist the road agencies in AM Policy finalisation,
 - Provide road agencies with further updates of road condition data analysis tools,
 - Assist road agencies in refining the road asset valuation,
 - Introduce road agencies to the concept of whole life cycle cost analysis,
 - Assist road agencies in completing data analysis of GEM designated road projects,
 - Advise road agencies on preparation for socioeconomic repeat surveys and analysis of trends. Options for prioritizing and streamlining the existing indicators (in line with the country context) will be discussed, focussing on the most important/promising indicators for the purposes of the GEM project.

3.2 Socio Economic Impact Study

A number of socio-economic measures have been captured for each rural district as part of the baseline survey. The data are being analyzed using standard statistical procedures to determine representative values for road sections (where possible), to look for consistencies between measures for the same district (for example by plotting travel times vs. produce cost) and to determine relationships within districts and across districts between socio-economic measures and measures of road condition (for example road roughness and travel times). The investigation of consistencies between the measures of performance will help to identify

inconsistent and possibly erroneous data, which could be excluded from further analysis. It is hoped over time to link changes in asset management performance (as captured by the district self-assessment questions) to changes in road condition and thereby improvements in the socio-economic measures of performance. By so doing during the course of the project, it is expected to be able to identify the key measures of socio-economic performance. These may be different between the participating districts due to differences in social demographics and economic activity.

The purpose of the socio-economic study is to establish a link between rural road AM and the well-being of local communities, and to use this evidence to lobby for increased funding for rural roads.

Annex A: Sierra Leone

AM POLICY WORKSHOP OUTCOME

POLICY ASPECT	GUIDING NOTES	OUR ANSWERS	ACTION WE CAN TAKE	WHO LEADS, WHO HELPS?	DATE TO FINISH ACTION?
THIS IS OUR UNDERSTANDING OF ROAD ASSET MANAGEMENT (RAM)!	Definition of Road Asset Management?? What is our understanding of RAM?	<ul style="list-style-type: none"> • Routine planning to improve roads • Management of roads for capturing potential benefits 			
BENEFITS THAT CAN ACCRUE FROM EFFECTIVE RAM?	Suggest and list	<ul style="list-style-type: none"> • Free-flow of vehicles • Attraction of investment • Easy access to social services • Reduced wear and tear • Development opportunities increase • Economic growth 			
OUR RAM AIMS/OBJECTIVES?	Sustainable development? Safety? Target Level of Service?	<ul style="list-style-type: none"> • To provide safe, efficient and effective and sustainable road access to our communities • Travel speed of 30-40 of 50-60km/hr • Walking distance to all weather road must be 5-10km for flat terrain, 2-3kms for hilly areas • Impassable points – limit closure to 2-3 days maximum 			
OUR ORGANISATIONAL CONTEXT	Stakeholders?	<ul style="list-style-type: none"> • Paramount chiefs • Ministries of Finance, Local Govt, Health, Education, Social Services • Min of Works • Road users • Business people • Transporters 			

POLICY ASPECT	GUIDING NOTES	OUR ANSWERS	ACTION WE CAN TAKE	WHO LEADS, WHO HELPS?	DATE TO FINISH ACTION?
	Which other organisation influences us? Legal requirements? Reporting requirements?	<ul style="list-style-type: none"> • Road Maintenance fund • Local govt act • Procurement act • Councils standing orders 			
THESE ARE OUR ROAD ASSETS AND WE VALUE THEM!	List these and indicate your perception of condition? How are we planning and providing these?	<ul style="list-style-type: none"> • Road signs, • Drainage systems, • Pavement, • Guard rails, • Lighting, • Pavement, • Culverts, • Bridges, • Overpasses, • Offices, workshops, • Vehicles, equipment 			
OUR ENABLERS? WHO AND WHAT CAN MAKE EFFECTIVE RAM HAPPEN?	Funds? People? Leaders? Definition of roles and responsibilities?	<ul style="list-style-type: none"> • Road Fund, Min of Finance • Council • Works committee • Central govt • Use local communities to maintain roads • Local construction industry 	<ul style="list-style-type: none"> • Increase allocation to roads • Reactivate works committee • Request road funding policy review • Improve capacity of construction industry 		
OUR STRENGTHS	What are we good at as an organisation relative to provision and maintenance of roads?	<ul style="list-style-type: none"> • Councillors active in roads provision 			

POLICY ASPECT	GUIDING NOTES	OUR ANSWERS	ACTION WE CAN TAKE	WHO LEADS, WHO HELPS?	DATE TO FINISH ACTION?
OUR WEAKNESSES	What do we lack internally to the organisation vis a vis roads provision and maintenance?	<ul style="list-style-type: none"> • Internal communication poor • Lack of training opportunities • Resources limited for Engineer – no vehicles, GPS, eng software • Coordination problems with donor funded projects • Works committee not functional 			

ACTION PLAN

No.	Action	Responsibility	Planned Completion Date	Status at Date:	Revised Completion Timing
1	Complete road condition surveys	District & SLRA Eng	End Dec 2016	85% done	7 April 2017
1a	Analyze road condition data and input	District & SLRA Eng		New	30 April 2017
2	Completion of AM Policy	C.A. & District Eng, Roads Committee	Mid April	work in progress	15 April 2017
3	Recommend actions to be taken to bridge AM gaps identified	Eng District & SLRA	April	Work in progress	End of April 2017
4	Convene a special council meeting to present progress so far on the AM Project raising achievements realized so far.	Eng District & SLRA	7 April 2017	New	End of April
5	Convene one day stakeholder meeting in Freetown to report on GEM progress so far	Tamba/Kome/Lahai	May 2017	New	May 2017
6	Request for training in identified areas (Survey, Design of minor structures, Auto cad, Supervision of works, Planning of works, materials selection & reporting)	District Eng Tonkolili	30 April	New	5 May 2017
5	Extend road Inventory & condition surveys to remainder of road network in Tonkolili	District & SLRA Eng	June	New	July 2017
6	Quantify maintenance funding gap, and present to Council for support	District & SLRA Eng	March - Sept	On going	Sept 2017
7	Request GAT for assistance in works planning and reporting	TDC Eng	17 March	New	End of March

No.	Action	Responsibility	Planned Completion Date	Status at Date:	Revised Completion Timing
8	Prepare for the PIT Meeting	C.A. & District Eng, Roads Committee	March - Sept	On going	Sept 2017
9	Specify and request GPS receivers and dashboard camera	TDC	March 2017	New	April 2017

Annex B: Zambia

AM POLICY WORKSHOP OUTCOME

POLICY ASPECT	GUIDING NOTES	OUR ANSWERS	ACTION WE CAN TAKE	WHO LEADS, WHO HELPS?	DATE TO FINISH ACTION?
THIS IS OUR UNDERSTANDING OF ROAD ASSET MANAGEMENT (RAM)!	Definition of Road Asset Management?? What is our understanding of RAM?	<ul style="list-style-type: none"> • How we look after our assets • Knowing the status of our asset • Fits in with our mission to be a “Clean and Green Council by 2020” • Compliments the Council Mission which is to “Provide Reliable and Efficient Services to the Local Community and other stakeholders” • Our understanding of RAM is that it is the efficient utilisation of available resources to provide an efficient and reliable road network to the local community and other stakeholders. 	<ul style="list-style-type: none"> • DES to meet with DDP to strategize ways to create awareness of RAM in Council • Display Council Vision and Mission in Reception area, office, selected public spaces • Finalise draft AM Policy and present to Management, Works Committee and Council 	DES PRO	15 April 2017 15 April 2017 31 May 2017
BENEFITS THAT CAN ACCRUE FROM EFFECTIVE RAM?	Suggest and list	<ul style="list-style-type: none"> • Economic growth • Improve standards of living • Improved travel time • Reduced vehicle operating costs • Cheaper goods • Improved road safety • Improved accessibility. 	<ul style="list-style-type: none"> • Take economic activity into account as you prioritize works • Highlight and create awareness of the benefits to council management and council organs as well as DDCC 	<ul style="list-style-type: none"> • DES • DES, Planning Dept, DDP 	31 May 2017
OUR RAM AIMS/OBJECTIVES?	Sustainable development? Safety? Target Level of Service?	<ul style="list-style-type: none"> • Economic growth • Improve standards of living • To provide safe, efficient and effective and sustainable road access to our communities 	<ul style="list-style-type: none"> • Map the core feeder road network using the criteria set as well as other factors such as location of centres of economic and social activities 	<ul style="list-style-type: none"> • DES and Planning Dept 	28 February 2018

POLICY ASPECT	GUIDING NOTES	OUR ANSWERS	ACTION WE CAN TAKE	WHO LEADS, WHO HELPS?	DATE TO FINISH ACTION?
		<ul style="list-style-type: none"> Maintain gravel roads in a GOOD condition, to achieve travel speed of 40-50km/hr Maximum walking distance from homestead to all-weather roads to be 10kms 			
OUR ORGANISATIONAL CONTEXT	Stakeholders? Which other organisation influences us? Legal requirements? Reporting requirements?	<ul style="list-style-type: none"> Traditional leadership Ministries of Finance, Transport and Communication, Local Government, Health, Education, Agriculture, Mining, Youth, Gender, Community Development ZNS District Administrator Auditor general Ministry of Justice Min of Environment Road users Farmers Business community Industry, local contractors Transporters Road Maintenance fund Local govt act Procurement act 	<ul style="list-style-type: none"> Obtain stakeholder views on roads through surveys, e.g. questionnaires Create website Set up Facebook profile Equip councillors with tools to obtain views and feedback at ward level Set up suggestion boxes Set up WhatsApp number for road users to send concerns 	PRO, DES and DDP	30 July 2017
THESE ARE OUR ROAD ASSETS AND WE VALUE THEM!	List these and indicate your perception of condition? How are we planning and providing these?	<ul style="list-style-type: none"> Road signs, Drainage systems, Pavement, Guard rails, Lighting, Pavement, Culverts, Bridges, 	<ul style="list-style-type: none"> Improve the condition of the assets through prioritizing maintenance of roads in good condition, attending to bottlenecks and then rehabilitation 	<ul style="list-style-type: none"> DES 	30 June 2017

POLICY ASPECT	GUIDING NOTES	OUR ANSWERS	ACTION WE CAN TAKE	WHO LEADS, WHO HELPS?	DATE TO FINISH ACTION?
		<ul style="list-style-type: none"> • Offices, workshops, • Vehicles, equipment 			
OUR ENABLERS? WHO AND WHAT CAN MAKE EFFECTIVE RAM HAPPEN?	Funds? People? Leaders? Definition of roles and responsibilities?	<ul style="list-style-type: none"> • Road Fund, Min of Finance • Councillors • Council engineering department • Works committee • Central government • Local communities • Local construction industry • Hon Mayor of Chongwe as Champion for RAM 	<ul style="list-style-type: none"> • Seek to understand how the MLG relates to MoF vis a vis funds from the Road Fund 	<ul style="list-style-type: none"> • Hon Mayor and Town Clerk, Council Director of Finance, DES 	30 July 2017
OUR STRENGTHS	What are we good at as an organisation relative to provision and maintenance of roads?	<ul style="list-style-type: none"> • We attained Municipal Status • Political will in Council • Support from RDA • Human resources highly capable • Enabling legislation in place • Open to new ideas • Close proximity to the Capital City and house KKIA Airport • Major highway passes through our area – T4 • Endowed with land for development • Ongoing research in roads in the district, e.g. AfCAP • Strong and vibrant agricultural industry • Strong revenue collecting mechanisms 	Investigate entitlements emanating from Municipal status vis a vis roads Create a PR Strategy	DES PRO	30 July 2017 30 July 2017
OUR WEAKNESSES	What do we lack internally to the organisation vis a vis roads provision and maintenance?	<ul style="list-style-type: none"> • Inadequate finances from Road Fund • Equipment not adequate, what we have is constantly broken down • Not technologically up to date 	<ul style="list-style-type: none"> • Continue lobbying government for improvement in allocations, 	Hon Mayor, Town Clerk	30 June 2017

POLICY ASPECT	GUIDING NOTES	OUR ANSWERS	ACTION WE CAN TAKE	WHO LEADS, WHO HELPS?	DATE TO FINISH ACTION?
		<ul style="list-style-type: none"> Lack of AM Policy Road network in very poor condition 	<ul style="list-style-type: none"> Improve revenue base by tapping into royalties from private sector Consider alternative technologies for road maintenance – e.g. Tractor Based Technology 	Town Clerk, Director of Finance DES	30 December 2017 30 August 2017

ACTION PLAN

No.	RAM Aspect	Action	Responsibility	Planned Completion Date	Status at Date:	Revised Completion Timing
1	Maintenance Funding	<ul style="list-style-type: none"> Request for maintenance funds to commence the maintenance works on the project roads and other roads by beginning of March 2017 	<ul style="list-style-type: none"> DES, DF 	<ul style="list-style-type: none"> 31 March 2017 		
2	Road Condition Data Analysis	<ul style="list-style-type: none"> Undertake road and structure data analysis and prepare a prioritised road maintenance plan including quantifying backlog maintenance 	<ul style="list-style-type: none"> DES 	<ul style="list-style-type: none"> 30 April 2017 		
3	Follow-up Road Condition Surveys and Data Analysis	<ul style="list-style-type: none"> Carry out follow up road condition surveys and analyse the data, include entire network 	<ul style="list-style-type: none"> DES, RDA 	<ul style="list-style-type: none"> 30 Sept 2017 		
4	Formulation of Asset Management Policy	<ul style="list-style-type: none"> Complete drafting the AM Policy 	<ul style="list-style-type: none"> DES, RDA RO 	<ul style="list-style-type: none"> 31 May 2017 		
5	Formulation and document an Emergency Response plan	<ul style="list-style-type: none"> Prepare the emergency response plan for presentation to management and request for its approval 	<ul style="list-style-type: none"> DES 	<ul style="list-style-type: none"> 30 April 2017 	Still to start	31 May 2017
6	Capacity Building	<ul style="list-style-type: none"> Write motivation to AFCAP for training support in asset management 	<ul style="list-style-type: none"> RDA RO/CDC 	<ul style="list-style-type: none"> 30 April 2017 		

No.	RAM Aspect	Action	Responsibility	Planned Completion Date	Status at Date:	Revised Completion Timing
		<ul style="list-style-type: none"> Write motivation to AFCAP for support to attend a course at Stellenbosch support in asset management. 	<ul style="list-style-type: none"> RDA RO/CMC 	<ul style="list-style-type: none"> 30 April 2017 		
7	Asset management system	<ul style="list-style-type: none"> Incorporate GIS referencing system in data collection Develop an excel road based inventory for documentation of data 	<ul style="list-style-type: none"> RDA RO/CMC RDA RO/CMC 	<ul style="list-style-type: none"> May 2017 July 2017 		
8	Maintenance Operations	<ul style="list-style-type: none"> Complete repair of the grader Commence the Road maintenance works. 	<ul style="list-style-type: none"> DES CDC 	<ul style="list-style-type: none"> Jan 2017 31 Mar 2017 	Awaiting payment	31 March 2017 15 April 17
9	Socio-economic data Collection.	<ul style="list-style-type: none"> Complete baseline data collection Carry out a repeat of the data collection 	<ul style="list-style-type: none"> DES DES/DDP 	<ul style="list-style-type: none"> January 2017 30 Sept 2017 		
10	Prepare for T2 Meeting in Livingstone	<ul style="list-style-type: none"> Prepare presentation for AM Workshop 	<ul style="list-style-type: none"> DES/RDA 	<ul style="list-style-type: none"> 21 Apr 2017 		
11	Prepare for PIT Meeting in Nov 2017	<ul style="list-style-type: none"> Prepare presentation on status of GEM project 	<ul style="list-style-type: none"> DES/RDA 	<ul style="list-style-type: none"> 31 Oct 2017 		

Annex C: Uganda

AM POLICY WORKSHOP OUTCOME

POLICY ASPECT	GUIDING NOTES	OUR ANSWERS	ACTION WE CAN TAKE	WHO LEADS, WHO HELPS?	DATE TO FINISH ACTION?
THIS IS OUR UNDERSTANDING OF ROAD ASSET MANAGEMENT (RAM)!	<p>Definition of Road Asset Management??</p> <p>What is our understanding of RAM?</p>	<ul style="list-style-type: none"> • Ensuring functionality of the road asset to the community • Clear legal regime • Organisation structure and scope of work clearly defined • Cost breakdown and time schedules known and well laid out • Efficient reporting of both positive and negative aspects • Optimising usage of limited resources • Provision of adequate/appropriate budget for road maintenance • Implementation of strategies to attain sustainable road infrastructure 	<ul style="list-style-type: none"> • Draft the AM Policy and present to CAO for onward presentation and adoption by Council 	<ul style="list-style-type: none"> • DE + Team 	<ul style="list-style-type: none"> • 30 April 2017
BENEFITS THAT CAN ACCRUE FROM EFFECTIVE RAM?	Suggest and list	<ul style="list-style-type: none"> • Raise incomes through efficient marketing • Reduced deaths due to improved accessibility to health centres • Road safety improves • Lower road user costs • Reduced vehicle operating costs • Reduction in crime as police can access reported areas • Reduced travel time 	<ul style="list-style-type: none"> • 	<ul style="list-style-type: none"> • 	

POLICY ASPECT	GUIDING NOTES	OUR ANSWERS	ACTION WE CAN TAKE	WHO LEADS, WHO HELPS?	DATE TO FINISH ACTION?
		<ul style="list-style-type: none"> • Attracts investments and new ventures • Political stability 			
OUR RAM AIMS/OBJECTIVES?	Sustainable development? Safety? Target Level of Service?	<ul style="list-style-type: none"> • Connect communities to Admin Centres, Schools, Health Centres and economic hubs • Interconnectivity with adjacent districts • Bring roads to maintainable status • To provide efficient movement of goods and services • Design speed – 60-80 km/hr • Maintain roads to achieve travel speed of 60 km/hr throughout the year 	<ul style="list-style-type: none"> • Draft a roads vision and mission statement that links into the District’s and incorporate into AM Policy 	<ul style="list-style-type: none"> • DE + Team 	<ul style="list-style-type: none"> • 30 April 2017
OUR ORGANISATIONAL CONTEXT	Stakeholders? Which other organisation influences us? Legal requirements? Reporting requirements?	<ul style="list-style-type: none"> • UNRA • Road users • Ministries of Local Govt;, Finance, Health, Education, Agriculture • The Police • Kamuli District Council • Sub-counties • Road Development Partners – World Bank, ADB et • Road Fund • Min. of Works • Min. of Water and Environment/NEMA • Min. of ICT • Transport Operators • Business Community 	<ul style="list-style-type: none"> • Develop a public consultation and communication plan about Roads Asset Management to include, e.g. – posters, Social media, meetings, brochures, radio shows, etc. 	<ul style="list-style-type: none"> • DE + Team + Communications Department 	<ul style="list-style-type: none"> • 30 April 2017

POLICY ASPECT	GUIDING NOTES	OUR ANSWERS	ACTION WE CAN TAKE	WHO LEADS, WHO HELPS?	DATE TO FINISH ACTION?
		<ul style="list-style-type: none"> • Local Govt Act • Public Finance Act • Roads Act • Road Traffic Act • National Environmental Act • Occupational Health and Safety Act • Land Act 			
THESE ARE OUR ROAD ASSETS AND WE VALUE THEM!	List these and indicate your perception of condition? How are we planning and providing these?	<ul style="list-style-type: none"> • Road/Land • Road furniture • Bridges and culverts • Road equipment, hand tools • Utilities • Human resources • Road marking • Pavement layers • Subgrade • Ferry • Boats 	<ul style="list-style-type: none"> • 	<ul style="list-style-type: none"> • 	
OUR ENABLERS? WHO AND WHAT CAN MAKE EFFECTIVE RAM HAPPEN?	Funds? People? Leaders? Definition of roles and responsibilities?	<ul style="list-style-type: none"> • Community self-reliance • District Council • Council Engineering department • District Executive Committee • Works Committee • Min. of Works • Min. of finance • Parliament • Local investors • Business community 	<ul style="list-style-type: none"> • Sensitise the Works Committee on the aspect of Road Asset Management 	<ul style="list-style-type: none"> • DE 	<ul style="list-style-type: none"> • 30 June 2017

POLICY ASPECT	GUIDING NOTES	OUR ANSWERS	ACTION WE CAN TAKE	WHO LEADS, WHO HELPS?	DATE TO FINISH ACTION?
OUR STRENGTHS	What are we good at as an organisation relative to provision and maintenance of roads?	<ul style="list-style-type: none"> • Strong political representation at national and district level • Functional Technical Works Department • Community willingness to provide land for free for road development • Semi and Unskilled labour readily available • Terrain is easy to build roads • Readily available good quality gravel • Political stability 			
OUR WEAKNESSES	What do we lack internally to the organisation vis a vis roads provision and maintenance?	<ul style="list-style-type: none"> • Inadequate equipment, units provided by government not complete • Under-establishment of technical department • Workshop not fully equipped to service and repair equipment • Over-establishment of administration sections of council • Works Department has no offices • Inadequate funds, receiving 30% of requirements • Late release of funds from Road Fund 	<ul style="list-style-type: none"> • Eng. Dept. to make needs known to CAO – number, specs, utilisation estimates • DE to write to CAO/HR requesting filling the vacant posts • Eng. Dept. to list requirements and write to CAO • Request for temporary office building/facility • Determine requirements – backlog maintenance • Lobby Road Fund for increase in allocation 	<ul style="list-style-type: none"> • DE • DE • DE • DE • DE + Dept. • Council, CAO, DE 	<ul style="list-style-type: none"> • 30 April 2017 • 30 April 2017 • 30 April 2017 • 30 April 2017 • 30 June 2017 • 30 April 2017 • 30 June 2017

POLICY ASPECT	GUIDING NOTES	OUR ANSWERS	ACTION WE CAN TAKE	WHO LEADS, WHO HELPS?	DATE TO FINISH ACTION?
		<ul style="list-style-type: none"> • Lack of specialised skills e.g. materials selection and testing • Inconsistency in resource allocation • Road prioritisation process in Top-Down (upside down) • Land Act needs to be re-visited vis a vis attention to roads • Road design data such as rainfall not easily available 	<ul style="list-style-type: none"> • Council to initiate drafting by-laws to levy local industry using roads • Council to request takeover of heavily traffic roads to UNRA • CAO and DE attending Road Fund Maintenance Meeting, to report back • Determine, document and justify needs for simple tests, collate qtys and specs, write to CAO • Specify tests to be out-sourced and include in project budgets • Works Department to create awareness of benefits of the RAM approach amongst councillors • Council to lobby for free data from Ministries, departments and agencies 	<ul style="list-style-type: none"> • Council • DE, CAO, Council • CAO, DE • DE + Dept. • DE + Dept • DE, CAO • DE 	<ul style="list-style-type: none"> • 31 May 2017 • 31 March 2017 • 31 May 2017 • 31 May 2017 • 30 June 2017 • 30 April 2017

ACTION PLAN

No.	RAM Aspect		Action	Responsibility	Planned Completion Date	Status at Date:	Revised Completion Timing
1	General	1.1	Comment on Baseline Report	DE	07 April 2017		
		1.2	Prepare for T2 Meeting in Livingstone (8-10 May)	DE + Team	30 April 2017		
		1.3	Prepare for PIT Meeting in Nov. 2017		Oct 2017		
		1.4					
2	External	2.1	Develop a public consultation and communication plan	DE + Team + PR Dept	30 April 2017		
		2.2	Sensitise the Works Committee on Road Asset Management benefits etc	DE	30 June 2017		
		2.3					
3	Institutional	3.1	Draft mission statement for roads and the AM Policy and present to CAO for onward presentation and adoption by Council	DE + Team	30 April 2017		
		3.2	Write to CAO/HR requesting filling the vacant posts	DE	30 April 2017		
		3.3	Request more training on Asset Management aspects	DE	15 May 2017		
		3.4	Investigate available options for rapid road roughness surveys	DE	30 April 2017		
		3.5	Finalise Level-of-Service definition and obtain buy-in by Council	DE	30 June 2017		
		3.6					

Economic Growth through Effective Road Asset Management – Road Inventory and Condition Survey Training

4	Funding	4.1	Determine requirements – backlog maintenance	DE + Team	30 June 2017		
		4.2	Request funds for road condition surveys, including purchasing road roughness measuring equipment	DE	30 Nov. 2017		
		4.3	Calculate Network Asset Value using GEM Spreadsheet	DE + Team	30 July 2017		
		4.4	Assist Council and CAO to campaign for more funding and timely release by the Road Fund	DE	31 Dec. 2017		
		4.5					
5	Managerial	5.1	Request training in Whole Life Costing from AFCAP	DE	30 April 2017		
		5.2					
6	Technical	6.1	Determine, document and justify needs for simple laboratory tests, indicate quantities of equipment and specs, write to CAO	DE + Team	30 June 2017		
		6.2	Request training assistance in Construction Management, Force Account Operations, etc from AFCAP, GIS systems and Mapping	DE	30 April 2017		
		6.3	Complete road condition data analysis	DE + Team	31 May 2017		
		6.4	Undertake 2nd round of Road Condition Surveys and analyse in preparation for PIT Meeting	DE + Team	30 Sept 2017		
		6.5					
7	Operations	7.1	Make equipment and workshop equipment needs known to CAO – number, specs, utilisation estimates	DE + Team	30 April 2017		
		7.2	Further develop maintenance planning and reporting instruments using templates provided under GEM	DE	30 April 2017		

		7.3	Request information on best practices on technical audits of design and maintenance works, study	DE +Team	31 Dec. 2017		
		7.4					
8	Socio-economic evaluation	8.1	Undertake 2nd round of Social data collection and analysis in preparation for PIT meeting	30 Sept. 2017			
		8.2					

Annex D: Calculation of Road Asset Preservation Index

Chongwe Zambia

Building Block	Agency Score (Baseline)	Advisory Team Score (Baseline)	Mar 17 Joint Review Score		Weightings	Coefficient	Coefficient x Mar 17 score		
External	0.75	0.38	0.25		6.00	0.29	0.07		
Institutional	0.36	0.39	0.25		5.00	0.24	0.06		
Financial	0.29	0.29	0.08		4.00	0.19	0.02		
Managerial	0.32	0.14	0.11		3.00	0.14	0.02		
Technical	0.50	0.33	0.58		2.00	0.10	0.06		
Operational	0.58	0.33	0.58		1.00	0.05	0.03		
				Totals	21.00	1.00	0.25	A	
						Max score	4	B	
						RAPI	1.0	A x B	
						AM Development Level	Not Developed		
Scoring criteria:									
0	Not developed								
1	Minimum								
2	Core								
3	Mature								
4	Advanced								

Kamuli Uganda

Building Block	Agency Score (Baseline)	Advisory Team Score (Baseline)	Mar 17 Joint Review Score		Weightings	Coefficient	Coefficient x Mar 17 score	
External	0.75	0.38	0.75		6.00	0.29	0.21	
Institutional	0.29	0.18	0.14		5.00	0.24	0.03	
Financial	0.33	0.21	0.21		4.00	0.19	0.04	
Managerial	0.39	0.11	0.18		3.00	0.14	0.03	
Technical	0.30	0.20	0.40		2.00	0.10	0.04	
Operational	1.00	0.33	0.25		1.00	0.05	0.01	
				Totals	21.00	1.00	0.36	A
						Max score	4	B
						RAPI	1.5	A x B
						AM Development Level	Minimum	
Scoring criteria:								
0	Not developed							
1	Minimum							
2	Core							
3	Mature							
4	Advanced							

Tonkolili Sierra Leone

Building Block	Agency Score (Baseline)	Advisory Team Score (Baseline)	Mar 17 Joint Review Score		Weightings	Coefficient	Coefficient x Mar 17 score
External	0.50	0.38	0.75		6.00	0.29	0.21
Institutional	0.50	0.21	0.18		5.00	0.24	0.04
Financial	0.38	0.17	0.17		4.00	0.19	0.03
Managerial	0.21	0.11	0.11		3.00	0.14	0.02
Technical	0.00	0.25	0.33		2.00	0.10	0.03
Operational	0.83	0.25	0.25		1.00	0.05	0.01
				Totals	21.00	1.00	0.35
						Max score	4
						RAPI	1.4
						AM Development Level	Minimum

A
B
A x B

Scoring criteria:	
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0	Not developed
1	Minimum
2	Core
3	Mature
4	Advanced