



**AfCAP**  
Africa Community Access Partnership

# Research on New Asset Management Approaches for Maintaining and Improving Local Road Access

Mobilisation Report



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*Project No. 10636A GEN2018A*

**10 December 2015**

  
**roughton**  
international



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Cover Photo: Robert Geddes

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## **Abstract**

The Africa Community Access Programme (AFCAP) is funding a research and capacity building project on asset management for rural roads. The purpose of the project is to achieve economic and social benefits for local communities in rural areas as a result of improved performance in road asset management.

Three countries from sub-Saharan Africa will participate in the project. A fourth country, with established rural asset management systems, will provide a benchmark for best practice. If the project is successful it is expected that there will be subsequent phases which will enable the participation of additional countries.

The project will provide technical assistance to achieve improvements in asset management performance on a selected network of rural roads within each participating country. The performance will be measured against a new specification for rural road asset management that will be developed as part of the study. Measurements will also be taken of the road network condition and the impact of the road condition on the rural economy. These data will be discussed with road sector stakeholders in the project areas and in regional meetings of the participating countries. They will be used as part of an influencing strategy to achieve home-grown and sustainable improvements to the management of rural roads.

The Mobilisation Report summarises the outcome of meetings held with the Client and within the technical assistance team, and a revised approach and methodology proposed by the Consultant. It summarises actions to be carried out in the Inception and Formulation Phases of the project.

## **Key Words**

Rural Roads, Maintenance, Asset Management, Capacity Development

## **Acronyms, Units and Currencies**

\$	United States Dollars
AFCAP	Africa Community Access Partnership
ARMFA	African Road Maintenance Fund Association
ASCAP	Asia Community Access Partnership
CDS	Civil Design Solutions
DFID	Department for Further International Development
GDP	Gross Domestic Product
GPS	Global positioning system
ILO	International Labour Organization
LVR	Low Volume Road
PMU	Project Management Unit
RECAP	Research for Community Access Partnership
RI	Roughton International
UK	United Kingdom (of Great Britain and Northern Ireland)
UKAid	United Kingdom Aid (Department for International Development, UK)
UoB	University of Birmingham

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Kingstone Gongera  
Charles Bopoto  
Camilla Lema

## **1 Executive Summary**

The Africa Community Access Programme (AFCAP) is funding a research and capacity building project on asset management for rural roads. The purpose of the project is to achieve economic and social benefits for local communities in rural areas as a result of improved performance in road asset management. Cardno has signed a contract with Roughton International Limited (RIL) to provide technical input and project management services for the project.

Three countries from sub-Saharan Africa will participate in the project, however it is proposed that a fourth country, with established rural asset management systems, will provide a benchmark for best practice. If the project is successful it is expected that there will be subsequent phases which will enable the participation of additional countries.

The project will provide technical assistance to achieve improvements in asset management performance on a selected network of rural roads within each participating country. The performance will be measured against a new specification for rural road asset management that will be developed as part of the study. Measurements will also be taken of the road network condition and the impact of the road condition on the rural economy. These data will be discussed with road sector stakeholders in the project areas and in regional meetings of the participating countries. They will be used as part of an influencing strategy to achieve home-grown and sustainable improvements to the management of rural roads. The project will seek to build a maintenance culture in the participating countries and set an example for the region.

During the Mobilisation Phase meetings were held with the Client and amongst the team members in London (9<sup>th</sup> November 2015) and Pretoria (23<sup>rd</sup> and 24<sup>th</sup> November 2015). The following were the key outcomes of these meetings:

- The initial contract with Roughton International for management and technical assistance services for the project is for 5 months incorporating the 'Inception' and 'Formulation' phases. After this a decision will be made on whether to implement the project design.
- A revised approach including project purpose, objectives and methodology is required to achieve a successful outcome. The revised approach focusses more on achieving improved performance in road asset management than on testing approaches to road asset management (which may or may not work). The revised approach is encapsulated in a suggested new name for the project, namely 'Economic Growth through Effective Road Asset Management'. The acronym 'GEM' is still open to debate<sup>1</sup>.
- Three countries with emerging rural road asset management arrangements will participate in the project along with one country that has mature and well established systems. The fourth country will provide a benchmark for good performance.

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<sup>1</sup> The original title of the project is 'Research on New Asset Management Approaches for Maintaining and Improving Local Road Access'.

- RI will prepare draft letters inviting countries to submit proposals for participation in the project. The selection of participating countries must be transparent and defensible. The opportunity to participate must be open to all AFCAP member states<sup>2</sup>.
- Representatives from the four participating countries will form a Project Implementation Team (PIT) to guide the implementation of the project. The Africa Road Maintenance Fund Association (ARMFA) will be approached as a possible institutional home for the PIT.
- Changes are required to the professional team in response to the new approach and methodology. It is necessary to include a 'Road Maintenance Expert and Trainer', 'Road Condition Monitoring Expert' and 'Rural Transport Economist'.
- The project should make innovative use of public media to disseminate information concerning the project and outcomes of the research process.
- The project design recommendations will be presented to stakeholders for information and debate at the 'International Conference on Transport and Road Research' planned for Mombasa, Kenya from 15<sup>th</sup> to 17<sup>th</sup> March 2016. RI will prepare a concept note for a workshop and an abstract for a general paper describing the project.

Approval is now required from the AFCAP PMU for the following proposed modifications to the approach, methodology and professional team:

1. Change of the name of the project to 'Economic Growth through Effective Road Asset Management'
2. Changes to the professional team and time inputs to allow the participation of a 'Road Maintenance Expert and Trainer', 'Road Condition Monitoring Expert' and 'Rural Transport Economist'.
3. Reduction in the time input of the Team Leader and Deputy Team Leader to accommodate the inputs of the additional experts.

Assistance is requested from the AFCAP PMU with the selection of the participating countries. This will involve sending an invitation for proposals to all current AFCAP participating countries. A draft letter/ questionnaire will be prepared for this purpose.

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<sup>2</sup>

Established AFCAP member states are Mozambique, Malawi, Kenya, Tanzania, DRC, South Sudan and Ethiopia. New and prospective entrants include Ghana, Zambia, Sierra Leone and Uganda.

## **2 Background**

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 Programme – AFCAP) and Asia (Asia Community Access Programme – ASCAP). Cardno has signed a contract with Roughton International Limited (RIL) of UK to provide consultancy services for the delivery of a regional research project on improved management of rural roads. The project will be known as ‘Research on New Asset Management Approaches for Maintaining and Improving Local Road Access’ and will initially be implemented in sub-Saharan Africa as part of AFCAP. The consultancy contract is for a five month period covering the formulation and detailed design of the project. If the Formulation Phase is successful the project will proceed to implementation.

This report covers the activities carried out for the mobilisation of the consultancy team and the outcome of initial discussions with the Client. It includes details of the proposed revised objectives and methodology, changes to the professional team, and an approach to the selection of the participating countries.

### **3 Contract Launch Meeting**

A meeting was held in London on 9<sup>th</sup> November 2015 to discuss the launch of the project. The meeting was attended by the following:

- Jerome Rich – ReCAP Programme Director
- Jasper Cook – ReCAP Technical Team Leader
- Les Sampson – ReCAP Infrastructure Research Manager
- Bernard Obika – Roughton International
- Simon Gillett – Roughton International
- Michael Burrow – University of Birmingham.

The key discussion points and issues arising were:

- The start date of the project was moved forward to allow the planned team meeting in Pretoria to be held on 23rd November.
- Les Sampson will be able to attend the proposed Pretoria meeting.
- An agenda is required for the Pretoria meeting to ensure that all key points are covered.
- AFCAP PMU will send RIL the ReCAP Log Frame as soon as it has been finalised.
- The Inception milestone was retained as 2 months, but the Inception Report may be submitted earlier than this.
- AFCAP PMU expects significant dissemination of information early in the project through papers, newsletters, articles, etc.
- There is a conference in Mombasa in March 2016 called the 'International Conference on Transport and Road Research' which is being supported by AFCAP and the AFCAP PMU expects that the project will provide presentations.
- The project outcomes will be disseminated through the Birmingham University courses.
- The AFCAP PMU would be surprised and disappointed if the implementation phase does not go ahead.
- The three researchers linked to the University of Birmingham PhD programme are seen by AFCAP PMU as a fundamentally important aspect of the project and they would expect the researchers to travel to other countries.

RIL was referred to SABITA Manual 10 for important background information.

## **4 Team Meeting**

### **4.1 Attendance and Purpose**

The team meeting was held in Pretoria on 23<sup>rd</sup> November 2015. The following were present at the meeting:

- Les Sampson – ReCAP Infrastructure Research Manager
- Nkululeko Leta – ReCAP Regional Technical Manager Southern and East Africa
- Simon Gillett – Project Director RIL
- Robert Geddes – Team Leader RIL/CDS
- Liezl Coetzee – Deputy Team Leader RIL
- Michael Pinard – Institutional and Financing Expert RIL
- Michael Burrow – University of Birmingham

The main purpose of the meeting was to discuss the revised approach and methodology that had been proposed by the Team Leader and the strategy for selecting the participating countries. The revised approach was presented by the Team Leader and each aspect commented on by those present. This resulted in some changes to the draft approach, which are incorporated in the revised version which is presented below. Some of the details were further refined during informal team discussions on 24<sup>th</sup> November 2015.

The agenda for the meeting is included in Annex C.

### **4.2 Revised Purpose and Objectives**

The objective of the project, as set out in the TORs, is to ‘identify, test, document and disseminate an improved approach, or approaches, including institutional arrangements, for an approach to asset management for the maintenance and improvement of local access to rural areas in sub-Saharan Africa’. In the opinion of the Consultants the proposed ‘improved approaches’ to road asset management will not be sufficient to achieve meaningful change to the status quo concerning rural road asset management in Africa. A more strategic approach is required that introduces incentives to road agencies to improve their performance yet allows flexibility for these agencies to achieve improvements on their own terms.

Therefore it is recommended that the objective of the TORs should be replaced with a new Purpose and Objectives as follows:

**Purpose:**

**‘Economic and social benefits for local communities as a result of improved performance in road asset management.’**

The purpose statement links the objectives of the project to the ultimate beneficiaries, which are rural communities in sub-Saharan Africa.

**Objectives:**

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 specification for 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.

These objectives are time-bound, realistic and measurable. Objective 1 (Desk Study) will be achieved during the Formulation Phase. Objectives 2 to 4 will be partially achieved during the Formulation Phase. Targets for the fifth objective, ‘to achieve incremental (and measurable) improvements to asset management performance in the project areas’, will be developed during the Formulation Phase.

**4.3 Revised Approach**

The proposed approach to the project will 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 will be provided through demand-led technical assistance funded by DFID through AFCAP.

**4.4 Revised Methodology**

The consultancy contract signed by Roughton International Ltd is for a five month period. It incorporates the Inception and Formulation phases described below. The implementation and ultimate expansion and roll-out of the project will depend on development of a viable project design. In particular the project can only proceed to implementation if there is a clear demand and commitment to participate by at least three AFCAP member states.

It is noted that the total current duration of the project is envisaged as 27 months. It is evident that this length of time may not be adequate to make meaningful progress in addressing the significant challenge of rural road maintenance in Africa. It is likely that an extension to this period will be required. However, by placing much of the responsibility for the long term implementation in the hands of the participating countries, particularly for field data collection, it is expected that the extension of the implementation period would be possible largely within the constraints of the existing budget.

The following is a summary of activities to be carried out under the assignment. The activities for the Implementation Phase will be further developed during the Inception and Formulation Phases.

### **Inception Phase (2 months from signing contract)**

- Agree the revised objectives, scope and methodology.
- Agree the make-up of the professional team and detailed assignment of tasks.
- Set out a detailed work plan for the remainder of the assignment.
- Invite all AFCAP member states to submit proposals for participation in the project.

### **Formulation Phase (5 months from signing contract)**

- Conduct a review of 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. Visit a sample of project sites to verify data provided in the literature.
- Review proposals submitted by the AFCAP countries and make recommendations for approval by AFCAP PMU; assist AFCAP PMU to establish agreements / MOUs with each selected country and local authority road agency.
- Establish a Project Implementation Team (PIT) comprising representatives from each participating area. Approach the African Road Maintenance Fund Association (ARMFA) as a possible institutional home for the PIT.
- Develop a Specification for rural road asset management which is appropriate to sub-national road agencies in Africa.
- Establish detailed methodologies for the measurement of rural road condition and road asset value.
- Establish appropriate indicators for economic impacts of rural roads and agree the method of collecting the required data.
- Present the project design at a stakeholder workshop to be held in conjunction with the ‘International Conference on Transport and Road Research’ to be held in Mombasa, Kenya, from 15th to 17th March 2016.

### **Implementation Phase (a) (4 months)**

The following draft methodology for the project implementation will be refined and developed in greater detail during the formulation phase. The upscaling and roll-out of the project to additional countries and regions (e.g. Asia) will depend on the success of this first phase and availability of funding from DFID or other donors.

- Identify a target road network in each participating area.
- Conduct baseline studies in each participating area including:
  - Self-assessment by each participating region of their performance in road asset management against a simplified rural roads asset management specification; review of self-assessments in each area by an independent asset management expert(s);
  - Collect road condition data on the target network including roughness and average travel speed; identify any ‘rupture points’ on the target road networks; measure road asset value through, for example, gravel thickness, inventory of drainage structures etc.,

where appropriate; develop a GIS database of the target road networks and simple condition indices and asset valuation<sup>3</sup>;

- Collect social and economic data from each project area that is directly linked to road condition; for example traffic counts, availability of public transport, fares on public transport, vehicle operating costs, extent of damage to goods being transported on the roads<sup>4</sup>, etc.
- Discuss the baseline data with sector stakeholders in each area and in the PIT and disseminate the agreed outcome and relative scores.

### **Implementation Phase (b) (14 months)<sup>5</sup>**

- Assist each participating area to analyse the strengths and weaknesses of their road asset management systems and propose modifications and improvements at all levels including policy, funding, technical standards, forms of contract, choice of technology etc.; prepare any guidelines or manuals for road maintenance required by each participating area and conduct training courses if required.
- Provide technical back-up support and mentoring to the participating area on a periodic basis for two years.

### **Implementation Phase (c) (4 months)**

- After two years repeat the data collection process in the four participating areas including the asset management self-assessment, road condition monitoring, and assessment of economic costs/benefits associated with the road condition.
- Discuss the findings of the second round of data collection with sector stakeholders locally and in the PIT and disseminate the agreed outcome and relative scores.

### **Roll Out**

If the Implementation Phase is successful it is expected that there will be significant opportunities to roll out the approach to additional countries in Africa and also in Asia. It will also be possible to reinforce the gains made in the first participating countries with further technical assistance and periodic monitoring of performance. This will, however, depend on availability of funding from DFID or other sources.

A possible sequence of activities for the roll out is listed below.

- Launch the process in four new countries with collection of baseline data.
- Provide technical assistance, training and mentoring for two years in the eight participating areas.

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<sup>3</sup> Reference will be made to previous AFCAP research on condition monitoring using GPS. This component could be linked to the new AFCAP project on network monitoring using satellite imagery.

<sup>4</sup> Reference will be made to Prof Wynand Steyn's study on the effect of road condition on the value of tomatoes, <http://www.sarf.org.za/uploads/cms/documents/WynandJvdMSteyn.pdf> and opportunities for similar research will be explored in the project area.

<sup>5</sup> Or 24 months if an extension to the implementation period is approved.

- Conduct a round of data collection and road asset management self-assessment in the eight participating areas; discuss, agree and disseminate the outcome.
- Repeat the process adding more countries and study areas.

### **Added Value**

It is expected that improved performance in rural road asset management in the project areas will lead to a demand for improved performance in other areas within the same country. There will be opportunities for ReCAP to support this process through its country programmes.

### **Dissemination**

The project will use all available means to disseminate information concerning the project and outcomes of the research process. This will include innovative use of public media, government announcements, community radio stations, the UoB and other university curriculum, regional and international conferences, journal papers, etc. It is anticipated that the majority of conference and journal papers will be authored and co-authored by African researchers.

## **4.5 Study Areas**

The study areas will typically be administrative regions (province, state or district). Three areas will be selected in three different countries representing different environments and different road maintenance approaches and capacities. A fourth area, with a well-established rural road asset management system, will participate in the project to provide a benchmark for best practice.

At the team meeting on 23<sup>rd</sup> November 2015 it was agreed that the selection of participating countries must be transparent and defensible. The opportunity to participate must be open to all AFCAP member states. At present the AFCAP member countries are Mozambique, Malawi, Kenya, Tanzania, DRC, South Sudan and Ethiopia. New and prospective participants include Ghana, Zambia, Sierra Leone and Uganda, and these may be considered for inclusion in the project. RI will prepare a draft letter to be sent to the AFCAP participating countries by the AFCAP PMU. The letter will invite the country to make a proposal for their participation in the project.

It was agreed that the key criteria for participation are:

1. Commitment to provide the required resources and data in the project area;
2. Willingness to be open and transparent with the dissemination of the outcome of the periodic reviews of road agency performance.

The letter of invitation will solicit information concerning a rural road network proposed by the country to be included in the project and the capacity of the agency currently responsible for the network. The applicants will be required to state reasons why they believe their country ought to be included in the project.

The letter of invitation will state that the road agencies in the participating areas will be responsible for most of the data collection for the baseline and subsequent monitoring. They will require a vehicle and technicians and funds for fuel and allowances. This includes allowances for attending meetings in the project area. The local road agency staff will be required to attend project meetings including for their self-assessment of road asset management performance.

The project will provide and finance:

- Training and technical support to the technicians employed in the project area;
- Regional trips for PIT meetings including accommodation and subsistence and meeting venues;
- Specialist equipment including GPSs, mobile phones, computers, software.

The presence of one of the UoB PhD students in the country will be an advantage in the selection process, but not a prerequisite. It was agreed that these students will be far more effective in their own countries than elsewhere in the region. In their own countries they can provide a direct route to key decision makers and a clear understanding of the local environment, policies and norms.

Two regions were identified as options for providing the benchmark of best practice: Namibia and the Western Cape. Following informal team discussions it is recommended that the Western Cape be invited to participate for the following reasons:

- The Western Cape is sub-national entity whilst in Namibia it is likely that the project would be operating at the national level;
- South Africa has been used by AFCAP as a source of knowledge and best practice since the outset of the programme; it is not likely to ever be included as a member state;
- Namibia is not a participating country in AFCAP so their participation in the project may be controversial.

A draft letter of invitation to the Western Cape to participate in the project will be prepared for sending by the AFCAP PMU. It is not known yet whether their response is likely to be positive.

## **5 Professional Team**

Changes are proposed to the professional team in response to the revised approach and methodology. The make-up of the original and proposed team is summarised in the table below. Proposed inputs are summarised for the Formulation Phase. Inputs of each expert for the Implementation Phase will be assessed during project formulation.

The proposed tasks to be assigned to new experts on the team for the Formulation Phase are:

### **Road Maintenance Expert and Trainer**

- Review relevant literature on road maintenance programmes and road asset management policy in order to identify key influencing factors contributing to the success or failure of different initiatives.
- Visit selected project sites to verify the information provided in the literature and to establish the current status of programmes.
- Contribute to the development of the new Specification for Rural Road Asset Management.
- Contribute to the development of the road asset valuation method.
- Contribute to the preparation of the Final Report.
- Participate in the Formulation Phase workshop in Mombasa.

### **Road Condition Monitoring Expert**

- Review previous research carried out under AFCAP for road condition monitoring and existing asset management tools such as ROMAPS.
- Develop a methodology for assessing the asset value of a rural road network that is appropriate to sub-national road agencies in Africa.
- Contribute to the literature review.
- Contribute to the development of the new Specification for Rural Road Asset Management.
- Contribute to the preparation of the Final Report.
- Participate in the Formulation Phase workshop in Mombasa.

### **Rural Transport Economist**

- Develop appropriate indicators for measuring the economic impact of roads on local communities.
- Contribute to the literature review.
- Contribute to the development of the new Specification for Rural Road Asset Management.
- Contribute to the development of the road asset valuation method.
- Contribute to the preparation of the Final Report.
- Participate in the Formulation Phase workshop in Mombasa.

CVs of proposed new experts for the 'Road Maintenance Expert and Trainer', 'Road Condition Monitoring Expert' and the 'Rural Transport Economist' are included in Annex D. The two

Zimbabwean Engineers proposed for the first two roles have been employed as road agency staff. They bring to the team important first-hand experience in the operation of these agencies and have a deep knowledge of the operational challenges experienced by road agencies including financial constraints, skills shortages, government salary scales and political interference. The proposed Rural Transport Economist is Tanzanian and based in Dar es Salaam. She has 30 years of experience in the development of integrated rural transport policies and strategic planning at national and local levels.

In order to accommodate the input of the three additional experts the Team Leader's role will be reduced. It will now include mainly strategic planning and oversight, client liaison, reporting and dissemination of the study findings, albeit with continued technical contributions to all study outputs. The input of the Deputy Team Leader will also be reduced; it will now include mainly the review of study outputs from a social development perspective. It is not felt that the Team Leader requires direct support from a deputy for the management of a small study of this nature. Most of the support to the Team Leader will be provided by the Roughton Project Director.

It is also noted that the time input of the 'Institutional and Financing Expert' has been reduced to accommodate a more significant input by the 'Asset Management Expert' from the UoB, who will be responsible for developing the new specification for asset management of rural roads.

**Table 1: Proposed Professional Inputs for the Inception and Formulation Phase**

Post	Expert	Input as per ToRs	Input as per RIL Proposal	Current Proposed Input
Team Leader	Rob Geddes	4.0 months	3.0 months	1.6 months
Deputy Team Leader/ Social Development Adviser	Liezl Coetzee	4.0 months	3.0 months	0.6 months
Institutional and Financing Expert	Mike Pinard	Nil	2.3 months	0.8 months
Road Maintenance Expert and Trainer	Kingstone Gongera	Nil	Nil	1.8 months
Asset Management Expert	Michael Burrow	Nil	0.3 months	1.0 months
Road Condition Monitoring Expert	Charles Bopoto	Nil	Nil	1.2 months
Rural Transport Economist	Camilla Lema	Nil	Nil	1.0 month
Field Researchers (UoB PhD Students)	Robert Kakiiza (Uganda) Peter Kome (Sierra Leone) Dickson Ndlhovu (Zambia) Possible additions <sup>6</sup> : Adwoa Okyere (Ghana) Robert Ndumia (Kenya).	Nil	Nil	Will be consulted on project design issues.
Other Experts	Les Sampson <sup>7</sup> Robert Petts Harold Bofinger Ramsey Nesityif Gumel Ghataora	1.0 month	1.4 months	1.0 months
<b>Total</b>		<b>9.0 months</b>	<b>9.0 months</b>	<b>9.0 months</b>

<sup>6</sup> UoB has submitted a proposal to AFCAP PMU to include two additional PhD students in the project with matching funding from the university.

<sup>7</sup> It was suggested at the team meeting that Gerrie van Zyl be invited to replace Les Sampson on the team of Other Experts. Eng van Zyl is an expert on road asset management based in Cape Town and responsible for developing maintenance systems for rural roads in the Western Cape.

## Annex C Agenda for Team Meeting on 23rd November 2015

### Discussion Items

- |   |       |
|---|-------|
| 1. Introductions & Project Management Structure   | SG    |
| 2. Important Points from the Kick-off Meeting (9/11/15)   | SG/MB |
| 3. Deadlines and Deliverables   | SG    |
| 4. Mobilisation Report Contents   |       |
| 5. Revised Scope and Methodology  |       |
| • Objective   |       |
| • Intended Outputs  |       |
| • Technical Issues  |       |
| • Institutional   |       |
| • Legal & Regulatory  |       |
| • Capacity Building   |       |
| • Financing Issues  |       |
| • Project Visibility, Communication and Dissemination Plan  |       |
| • Uptake Considerations   |       |
| • Timeline/adequacy/extension (at what point)   |       |
| • Resource Programming (Who does What?)   |       |
| • Monitoring and Evaluation   |       |
| • Political and Operational Issues  | MP    |
| • Risk Assessment   | MP    |
| • Reporting   |       |
| 6. Other Programmes/ Lessons  |       |
| 7. Presentation on Ekiti Road Access Programme<br>(Successes, failures and what you would do differently) | BO    |
| 8. Country/ Region Selection  |       |
| • Which Countries must be Included?   |       |
| • What are the Selection Criteria?  |       |
| 9. Where might we find good examples of well/ poorly run maintenance regimes?                             |       |
| 10. Inception Workshop  |       |
| 11. Inception Report  |       |
| • Contents  |       |
| • Who is doing What?  |       |
| 12. Capacity Building and Dissemination Strategies  |       |
| 13. Monitoring Requirements and Indicators (ReCAP Log Frame)  |       |
| 14. Mombasa Conference (March 2016).<br>Submission of abstracts: 30th November 2015                       |       |
| 15. Contracts and Invoicing   | SG    |
| 16. Any other business  | SG    |
| 17. Close   | SG    |

## Annex D Curriculum Vitae

### Kingstone Gongera

**Family name:** Gongera  
**First names:** Kingstone Simbarashe  
**Date of birth:** 22 January 1962  
**Nationality:** Zimbabwe

#### Education:

Institution	University of Birmingham , United Kingdom
Date: from (month/year) to (month/year)	September1996 to September 1997
Degree(s) or Diploma(s) obtained:	Master of Science Degree in International Highway Engineering

Institution	Scottish Technical Education Council in Glasgow, Scotland.
Date: from (month/year) to (month/year)	September1979 to August 1981
Degree(s) or Diploma(s) obtained:	Diploma in Science Technology

**Language skills:** mark 1 (worst) to 5 (best) for competence:

Language	Reading	Speaking	Writing
Shona	mother tongue		
English	5	5	5
Nyanja	2	2	2
Ndebele	2	2	2
Portuguese	1	1	1

#### Membership of professional bodies:

Engineering Council of Zimbabwe and Transportation Member of the Zimbabwe Institution of Engineers.

#### Key qualifications:

Mr Gongera has 34 years' experience in the construction industry, 25 of these working with the Zimbabwe District Development Fund (DDF) starting as a technician ending up as Chief Roads Engineer DDF. From 1985 to 2002 he was involved with the KfW / Zimbabwe Government funded Rural Road Programme, a major road rehabilitation programme implemented through the DDF (Euro 100 million) which included construction/improvement of 21,000 km of road serving rural communities and development and establishment of a sustainable maintenance system. Mr Gongera was involved throughout this programme and had key roles in the development of the DDF Road Engineering Division and the establishment of DDF as one of three Zimbabwe Road Authorities.

As Director of Roads he was responsible for the overall management of the DDF road network in terms of planning, liaison and coordination with ministries and authorities, budgeting, programming,

implementation and monitoring and control of all DDF related road works including maintenance of the network.

After leaving the DDF in 2010 he has provided expert training and management consulting services to road management and maintenance programmes in Mozambique, Nigeria and Zambia.

**Specific country experience:**

Country	Date from (month/year) - Date to (month/year)
Zimbabwe	October 1981 -2010
Mozambique	August 2010 – 2012
Zambia	August 2010 – 2011
Nigeria	September 2012 -2014

**Professional experience records (projects):**

Date: from to (month/year)	May / June 2015
Location	Zimbabwe / Mozambique
Company	Stange Consult GmbH
Position	Road Maintenance Training Co-ordinator
Description	Mozambique Government Provincial Maintenance Consultancies. Responsible for preparing training programmes for management of provincial maintenance by road authority and carrying out of maintenance operations by maintenance contractors. in Gaza and Sofala – preparing planning and training programmes and supporting training activities

Date: from to (month/year)	2012 -2014
Location	Nigeria
Company	NIAF
Position	Project Manager
Description	Responsible for reviewing the institutional set up within the Road Agencies and re-structuring to form operational set up for the road divisions in three States. Produced training material for the management and operational staff responsible for road construction and maintenance. Conducted training for both operational and policy/management staff in all three States. Provided advice to the Project Management Unit responsible for infrastructure development under the DFID funded roads project. Liaised with local authorities, ministries, government and political leadership on implementation modalities. Development reporting and management systems for the project. Assisted the State governments in preparation of budgets, monitoring of progress and expenditure and

	production of periodic reports. Responsible for the overall management of the project and reported to the Head of programme in Nigeria.
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Date: from to (month/year)	May 2010 to July 2012 (part time)
Date from to (month/year)	June 2010 to July 2011
Location	Mozambique – Inhambane Province
Company	Stange Consult GmbH
Position	Maintenance Engineer/Trainer
Description	KfW funded Inhambane Construction and Maintenance Project for the development and management of priority rural road network (Euro 10 million). Maintenance Engineer Trainer responsible for establishment of the Maintenance Base Camps, installation and implementation of the Area Based Maintenance System (ABMS) in Inhambane province. Responsible for selection of roads to be included under system, planning maintenance actions, budgeting, work programming, preparing tender documents and training of contractors in implementation and training Maintenance Authorities in management of maintenance. Institutionalising maintenance into provincial system.

Date: from to (month/year)	April 2010 - August 2012
Location	Zambia – Southern Province
Company	Stange Consult GmbH
Position	Technical Trainer for Institution and Maintenance Contractors.
	Component 2 of KfW Funded project for rehabilitation of rural roads and enhancement of organizations to effectively manage the road network in the Southern Province (Euro 1 million) Provision of training services for Road Development Agency Provincial Personnel, District Authorities technical personnel and Maintenance Contractors for

Date: from to (month/year)	June 2003 – March 2010
Location	DDF
Position	Director Roads
Description	Responsible for advising government on policy and administration of roads in compliance with the relevant Act. Administration of the road related issues in line with the relevant Legislation. Responsible for the overall management of DDF Road Engineering Division.

Date: from to	July 1996 - May 2003
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(month/year)	
Location	Harare Zimbabwe
Company	District Development Fund
Position	Chief Roads Engineer
Description	<p>Responsible for overall management of the DDF Road Engineering Division which is the authority responsible for roads in Communal Areas and Small Scale Farming areas and manages a network of 21 500 km of road, and had some 3 500 employees. Activities included:</p> <ul style="list-style-type: none"> <li>• Planning, budgeting for road network and monitoring of work Implementation.</li> <li>• Co-ordination with national and local authorities, road agencies and road users regarding development and upkeep of networks.</li> <li>• Advise Government bodies regarding effective and appropriate technology and methods of managing the road network programme.</li> <li>• Management of budgets for construction and maintenance</li> <li>• Reporting to relevant authorities.</li> </ul> <p>During this time the KfW / Zimbabwe Government funded Rural Road Programme, a major road rehabilitation programme implemented through the DDF (Euro 100 million) which included construction/improvement of 21 000 km of road serving rural communities and development and establishment of a sustainable maintenance system.</p>

Date: from to (month/year)	June1992 - March1996
Location	Zimbabwe - Mashonaland East and Manicaland Provinces
Company	DDF
Position	Chief Engineer
Description	<p>Senior Technician responsible for management of the DDF Provincial Road Network comprising some 2 500 km of rural road. Duties included:</p> <ul style="list-style-type: none"> <li>• Identifying road construction and maintenance requirements.</li> <li>• Defining DDF's Rural Road Policies for the two Provinces</li> <li>• Locating problem areas</li> <li>• Developing strategic long-and-short-term operational plans</li> <li>• Identifying training needs for provincial staff</li> <li>• Participate in developing training programmes and materials.</li> <li>• Directing and leading Provincial Field Officers by technical assistance</li> <li>• Approve work programme for provinces</li> <li>• Account for contingencies for projects</li> <li>• Monitor the financial control system and overall budget control</li> <li>• Conduct training of Provincial and Senior District and Unit Field Officers, Supervisors and Clerks.</li> <li>• Produce Provincial budgets</li> </ul>

	<ul style="list-style-type: none"> <li>• Co-ordinate rural road programmes with other Ministries and Authorities.</li> </ul>
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Date: from to (month/year)	August 1986 – June 1992
Location	Mashonaland East
Company	DDF
Position	Senior/ Provincial Field Officer
Description	Technical Officer responsible for direct management of the road construction and maintenance operations including road surveys, costing, liaison with districts for planning and setting out and supervision of road works .

Date: from to (month/year)	1982 – 1986
Location	Zimbabwe
Company	Scott Wilson Kirkpatrick & Partners, Consulting Engineers, Harare
Position	Civil Engineering Technician
Description	Responsible for level control, checking measurements and payment certificates. Conduct all clerk of works duties. Supervised the contractor on compliance with road design, quality control on geometric standards and materials testing

Date: from to (month/year)	1981 – 1982
Location	Zimbabwe
Company	William Maine and Son
Position	Construction Surveyor
Description	Setting out, level control, measurement. Responsible for supervising labour and recording of progress. Liaise with supervising consultants on compliance with design, quality control on materials resting and road design requirements. Liaised with the community on opening up of new alignments and providing awareness to local authorities and local government officials.

Other relevant information (e.g. Publications):

- Co -author of Working Paper 5 on Low Volume Unsealed Roads – Tractor Based Road Maintenance System in Zimbabwe -1997 article in Landwards Magazine U.K. on rural road maintenance
- SARF article on Road network planning using agricultural benefits to determine economic feasibility September 2014 – article published as conference paper in South Africa for the Southern Africa Road Federation conference
- Co Author of Tractor based solutions to rural access and development AFCAP Conference May 2015 article published as a conference output for AFCAP Conference on Technology Transfer held in Zimbabwe in 2014

## Charles Bopoto

**Family name:** BOPOTO  
**First names:** Charles Tongai  
**Date of birth:** 10 November 1964  
**Nationality:** Zimbabwean

### Education:

Institution	University of Birmingham
Date: from (month/year) to (month/year)	1993 (Date of Obtainment)
Degree(s) or Diploma(s) obtained:	M Sc. International Highway Engineering

Institution	University of Zimbabwe
Date: from (month/year) to (month/year)	1987 (Date of Obtainment)
Degree(s) or Diploma(s) obtained:	B Sc. (Hons) Civil Engineering

**Language skills:** mark 1 (worst) to 5 (best) for competence:

Language	Reading	Speaking	Writing
English	5	5	5
Portuguese	3	3	3

### Membership of Professional Associations

Engineering Council of South Africa – Candidate  
 Engineering Council of Zimbabwe – Applicant  
 Zimbabwe Institution of Engineers – Applicant

### Other Training

- Concrete Practice; Cement and Concrete Institute, Harare; February; 1988;
- Concrete Mix Design; Cement and Concrete Institute, Bulawayo, June; 1988;
- Road Maintenance in Africa; Scott Wilson Kirkpatrick U.K.; Harare; October 1990;
- International Course on Road, Bridge and Tunnel Construction and Management; Belgian Road Research Centre; Brussels, Belgium; May/June 1991;
- Management Seminar; The Zimbabwe Institution of Engineers, Harare; January 1994;
- Project Management ; The Zimbabwe Institution of Engineers, Harare; May 1994;
- Managerial Leadership; The Zimbabwe Institution of Engineers, Speciss Training Services, Harare; September 1994;
- Financial Management and Accounting; The Zimbabwe Institution of Engineers, Speciss Training Services; Harare; March 1995;
- Roads and Transport in Developing Countries; Transport Road Laboratory; Easthampstead Park, Wokingham, England; July 1996;
- Executive Seminar on Logical Frameworks; University of Bradford; Bradford, England; September 1997;
- Road Management and Financing for Senior Road Executives; University of Birmingham; Birmingham; April 2000.

**Countries of Work Experience:** Malawi, South Africa, Mozambique, Zimbabwe

**Key Qualifications**

Charles Bopoto has been working in the roads sector in southern Africa for nearly 30 years. He has experience in all aspects of the provision of roads including truck roads and unpaved rural road networks. As adviser to the Zimbabwe Government he participated in the road sector reform process in the 1990s which saw the establishment of a road fund. This included updating Zimbabwe’s road inventory, conducting a condition surveys of the national road network, and reclassifying it into functional classes. As an independent Road Fund consultant he prepared a comprehensive strategy for co-ordination and preparation of Road Fund maintenance works programmes implemented by rural district councils. This included treatment selection and prioritisation models. He developed a Microsoft Access based Maintenance Management System (MMS) for use by local road agencies. As a consultant to AFCAP in Mozambique he developed an Index for Monitoring the Condition of Low Traffic Unpaved Roads using GPS/GIS Technology.

**Specific country experience:**

Country	Date from (month/year) - Date to (month/year)
Malawi	April 2003 to May 2004 June 2004 to September 2005
South Africa	January 2006 to April 2006 2009
Mozambique	2006 January 2009 to 2015
Zimbabwe	April 2003 to May 2004 March 2002 to March 2003 July 2001 to Feb 2002 May 2000 to June 2001 March 1997 to April 2000 January 1996 to February 1997 September 1993 to December 1995 February 1991 to September 1992 June 1990 to January 1991 December 1987 to May 1990

**Professional experience records (projects):**

Date: from to (month/year)	Jan 2009 – current
Location	Maputo, Mozambique
Client	Maputo Port Development Company, WML Coastal, Matola Cargo Terminal, Salgaocar Mozambique, GAC Mozambique, Gestao de Terminais SA; CDN Mozambique; AH Consulting Uganda
Position	Project Manager, Design Engineer, Contracts Manager, Technical Auditor, etc
Description	Project Conceptualisation, Detailed Investigations, Design, Tendering, Construction Supervision, Technical Audits Activities performed: Projects managed included: <ul style="list-style-type: none"> <li>• Resident Engineer for Repairs to Damaged Quaysides in</li> </ul>

	<p>Maputo Port;</p> <ul style="list-style-type: none"> <li>• Cadastral survey of the Port of Maputo Jurisdictional Boundary;</li> <li>• Detailed design of access roads and weighbridges in Maputo Port;</li> <li>• Detailed design of weighbridges for Anfrena Terminals in Matola;</li> <li>• Bridge Structural Condition Surveys and Investigations on 14 bridged on the Namialo to Metoro Road Project on behalf of Scott Wilson Ltd;</li> <li>• Detailed design and construction (through a Construction Management Contract) of a 30 000m<sup>2</sup> Iron Ore Terminal in Maputo Port including a railway siding;</li> <li>• Detailed design, tendering and construction supervision of a 25000m<sup>2</sup> Ferrochrome Packing Yard for Matola Cargo Terminal;</li> <li>• Detailed design of an Provisional Coal Terminal in Nacala Port for CDN;</li> <li>• Detailed design and construction supervision of a 50000m<sup>2</sup> truck processing terminal at Ressano Garcia Border for GT-SA of Mozambique, value \$3 million;</li> <li>• Pre-feasibility Study for an 800km toll road project in Northern Mozambique for Lidwala Consulting Engineers of RSA;</li> <li>• Design and construction supervision of a 2700 m<sup>2</sup> office facility as Ressano Garcia Border, value \$1.5 million;</li> <li>• Technical audit of over 30 schools and institutes in Mozambique for AH Consulting of Uganda on a World Bank funded programme.</li> </ul>
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Date: from to (month/year)	August 2011 – February 2014
Location	Nampula Province, Mozambique
Client	Millennium Challenge Account Mozambique funded by Millennium Challenge Corporation
Position	Engineer (FIDIC definition)
Description	<p>Construction Supervision of the Rehabilitation and Upgrading of 149.7 km of the national primary link N1 road. Construction activities involved recycling existing road pavement and construction of new crushed stone base (CSB) covered with a Double Seal surface dressing. Divided into two: Lot 1 Namialo – Mecutuchi Bridge (75km) and Mecutuchi Bridge – Rio Lurio (74.7km); Total Value of Project was US\$100 million.</p> <p>Activities performed:</p> <ul style="list-style-type: none"> <li>• Represented Scott Wilson Ltd as the Project Engineer;</li> <li>• Managing project commencement activities including preparation of quality assurance documentation;</li> <li>• Directly responsible for the Resident Engineers of the two Lots; assisting them in: <ul style="list-style-type: none"> <li>✓ Supervision of the construction of the permanent works to ensure compliance with design and that materials and workmanship specifications,</li> <li>✓ Preparing and Issuing Site Instructions and Day works</li> </ul> </li> </ul>

	<p>Orders to Contractor,</p> <ul style="list-style-type: none"> <li>✓ Keeping records of measurements of quantities of work carried out and checking Day Works for preparation of Interim Payment Certificates.</li> <li>✓ Regular re-evaluation of Scope of Works to ensure Budget compliance,</li> <li>✓ Enforcing matters of Site Safety for the workers and the public road users during the execution of construction activities,</li> <li>✓ Preparing and submitting Monthly progress reports to Client;</li> </ul> <ul style="list-style-type: none"> <li>• Regular assessment of the Contractor’s Work Programme to ascertain reasonable relationship between resources and the time allocated for works completion;</li> <li>• Preparing Variation Orders;</li> <li>• Preparing and issuing Interim Payment Certificates;</li> <li>• Chairing monthly Progress Site Meetings;</li> <li>• Preparing all other special reports that became necessary during the course of the contract;</li> <li>• Attending to Claims by the Contractors;</li> <li>• Liaison with the DAB and attending DAB hearings;</li> <li>• Giving guidance to the Client on contractual matters;</li> <li>• Attending to technical matters on the project, in particular the redesign of three bridges following discovery of unforeseen features;</li> <li>• Affording particular attention to EHS matters.</li> </ul>
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Date: from to (month/year)	Feb 2009 to July 2011
Location	Nampula and Cabo Delgado Province
Client	MCA-ANE
Position	Deputy Team Leader
Description	<p>Feasibility Study and Detailed Engineering Design for the rehabilitation of Namialo to Metoro Road (224kms); Existing Bridges Widening; Widening of Arch Bridges</p> <p>Activities performed:</p> <ul style="list-style-type: none"> <li>• Collection and collation of all design data such as traffic, topographic surveys, hydraulic, hydrology data, pavement investigations results;</li> <li>• Undertaking detailed structural survey of existing bridge structures including electromagnetic scanning and coring;</li> <li>• Undertaking traffic count and origin destination surveys;</li> <li>• Condition survey of the route and data analysis;</li> <li>• Participating in the feasibility study of the project;</li> <li>• Coordination of geometric design of the highway using SATCC and Mozambican standards;</li> <li>• Reviewing pavement rehabilitation design with direct reference to ORN31 standards, SATCC and TRH manuals;</li> <li>• Coordination of design of large box culverts, pipe culverts and other hydraulic structures;</li> <li>• Design of other highway features: lined drains; carriageway marking; guardrails; signs, ancillaries, etc</li> <li>• Design report preparation;</li> </ul>

	<ul style="list-style-type: none"> <li>• Coordination of preparation of drawings;</li> <li>• Preparation of Environmental and Health and Safety Management Plans;</li> <li>• Tender documentation according to SATCC standards and FIDIC Conditions of Contract;</li> <li>• Assisting client in tender process: site visits; project briefings; tender receipt; tender evaluation; financial evaluation;</li> <li>• Preparation of contract documentation and coordination of contract signing.</li> </ul>
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Date: from to (month/year)	2009
Location	South Africa
Client	Lidwala Consulting Engineers
Position	Bridge Engineer
Description	<p>Inspection of 85 bridge structures and reporting on condition of over 700 bridges held on the BMS database for Mpumalanga Province's Department of Roads and Transport.</p> <p>Activities performed:</p> <ul style="list-style-type: none"> <li>• Inspection of each bridge structure and recording results in standardised BMS format;</li> <li>• Data entry into BMS database;</li> <li>• Analysis of data and making recommendations;</li> <li>• Preparation of cost estimates of interventions;</li> <li>• Report preparation.</li> </ul>

Date: from to (month/year)	2009
Location	Moçambique
Client	AFCAP/DFID/Moçambique Road Fund
Position	Research Consultant
Description	<p>Road Condition Monitoring Tools Development; Use of GPS Technology</p> <p>Activities performed:</p> <ul style="list-style-type: none"> <li>• Design of research strategy;</li> <li>• Evaluation of selected tools for monitoring condition of low cost unsurfaced roads;</li> <li>• Procurement of GPS instruments;</li> <li>• Survey of 7500kms of road collecting travel speed data using GPS technology;</li> <li>• Data analysis and preparation of recommendations;</li> <li>• Reporting</li> <li>• Participating in research seminars</li> </ul>

Date: from to (month/year)	January – June 2009
Location	Cabo Delgado Province, Moçambique
Client	Scott Wilson Mocambique
Position	Team Leader and Highway Design Engineer

Description	<p>Geometric, drainage and pavement design for the upgrading of kms 0-5 and Kms 150-177 of Mueda to Negomano Road</p> <p>Activities performed:</p> <ul style="list-style-type: none"> <li>• Collection and collation of all design data such as traffic, topographic surveys, hydraulic, hydrology data, pavement investigations results;</li> <li>• Condition survey of the route;</li> <li>• Preliminary design of the project;</li> <li>• Geometric design of the highway using SATCC and Mozambican standards;</li> <li>• Employment of Civil Designer software in the Geometric Design;</li> <li>• Pavement rehabilitation design with direct reference to ORN31 standards;</li> <li>• Design of other highway features: signs, ancillaries, etc</li> <li>• Design report preparation;</li> <li>• Coordination of preparation of drawings.</li> </ul>
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Date: from to (month/year)	January to June 2009
Location	Cabo Delgado Province, Moçambique
Client	Scott Wilson Moçambique
Position	Team Leader and Highway Design Engineer
Description	<p>Geometric and pavement design for the upgrading of km 0-28 of Macomia to Oasse Road</p> <p>Activities performed:</p> <ul style="list-style-type: none"> <li>• Collection and collation of all design data such as traffic, topographic surveys, hydraulic, hydrology data, pavement investigations results;</li> <li>• Geometric design of the highway using SATCC and Mozambican standards;</li> <li>• Pavement rehabilitation design with direct reference to ORN31 standards;</li> <li>• Design of other highway features: signs, ancillaries, etc</li> <li>• Design report preparation;</li> <li>• Coordination of preparation of drawings.</li> </ul>

Date: from to (month/year)	May 2006 to Jan 2009
Location	Maputo, Mozambique
Client	Maputo Port Development Company
Position	Port Chief Engineer
Description	<p>Infrastructure Rehabilitation of Maputo Port</p> <p>Overall responsibility for Infrastructure development and maintenance of roads, rails, berths, hardstands, warehouses, buildings, water reticulation, channel dredging, electrical power reticulation, weighbridges, etc.</p> <p>Activities performed:</p> <p>Projects managed included:</p> <ul style="list-style-type: none"> <li>• Maintenance management of all port infrastructure;</li> <li>• Design and construction supervision of a 25 000m<sup>2</sup> concrete</li> </ul>

	<p>hardstand; value \$2 million;</p> <ul style="list-style-type: none"> <li>• Supervision of construction of 10 000m<sup>2</sup> warehouse; value \$4 million;</li> <li>• Repairs to ship impact damaged quayside, value \$4 million;</li> <li>• Design and supervision of laying of rail track sidings, value \$0.8 million;</li> <li>• Coordination of construction of a Car Terminal facility; value \$5 million;</li> <li>• Coordination of the development of a Vegetable Oils Tank farm; value \$ 4 million;</li> <li>• Polana and Xefina Channels dredging; value \$1.8 million;</li> <li>• Procuring and supervising services for Channel seismic surveys; value \$0.5 million;</li> <li>• Concept designs, CAPEX estimating for Port Maputo Master Plan.</li> </ul>
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Date: from to (month/year)	January 2006 to April 2006
Location	Centurion, Pretoria
Client	Ndodana Consulting Engineers
Position	Highway Design Engineer
Description	<p>(1) Upgrading of Monte Cassino to Diepsloot, new bridge and widening of existing bridge (2) Widening of N12 from Tom Jones to Daveyton, widening of two bridges, multi cell culverts, design of retaining walls</p> <p>Activities performed:</p> <ul style="list-style-type: none"> <li>• Collection and collation of all design data such as traffic, topographic surveys, hydraulic, hydrology data, pavement investigations results;</li> <li>• Geometric design of the highway using SATCC and SANRAL standards</li> <li>• Pavement rehabilitation design with reference to TRH and ORN standards</li> <li>• Design of hydraulic structures such as culverts and bridges;</li> <li>• Design of other highway features: signs, ancillaries, etc</li> <li>• Design report preparation;</li> <li>• Coordination of preparation of drawings;</li> <li>• Preparation of tender documents guided by SANS procedures;</li> <li>• Tender evaluation.</li> </ul>

Date: from to (month/year)	June 2004 to September 2005
Location	Malawi
Client	Scott Wilson Africa Limited
Position	Resident Engineer
Description	<p>EU – European Union Funded Four Bridges Project</p> <p>Construction of :</p> <ul style="list-style-type: none"> <li>• Lisasadzi Bridge,</li> <li>• Kalwe Bridge,</li> <li>• Liwaladzi Bridge, and</li> <li>• Kasangadzi Bridge.</li> </ul>

	<p>Activities performed:</p> <ul style="list-style-type: none"> <li>• Daily supervision of contractor’s activities on site;</li> <li>• Quality control of the works;</li> <li>• Design of ancillaries as works progressed;</li> <li>• Convening and chairing site meetings;</li> <li>• Measurements and valuation of the same;</li> <li>• Preparation of payments certificates;</li> <li>• Attending to claims</li> <li>• Issuing Site Instructions and Variation Orders;</li> <li>• Monthly Reporting.</li> </ul>
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Date: from to (month/year)	April 2003 to May 2004
Location	Harare, Zimbabwe
Client	Scott Wilson Africa Limited
Position	Resident Engineer
Description	<p>Harare Airport Runway and Taxiway Supervision of runway and taxiways rehabilitation involving extensive granular and asphalt pavement work.</p> <p>Activities performed:</p> <ul style="list-style-type: none"> <li>• Daily supervision of contractor’s activities on site;</li> <li>• Quality control of the works;</li> <li>• Design of ancillaries as works progressed;</li> <li>• Convening and chairing site meetings;</li> <li>• Measurements and valuation of the same;</li> <li>• Preparation of payments certificates;</li> <li>• Attending to claims</li> <li>• Issuing Site Instructions and Variation Orders;</li> <li>• Monthly Reporting.</li> </ul>

Date: from to (month/year)	April 2003 to May 2004
Location	Malawi
Client	Scott Wilson Africa Limited
Position	Senior Consultant
Description	<p>Employed by Scott Wilson</p> <p>Main project features:</p> <ul style="list-style-type: none"> <li>• Business development and management;</li> <li>• Design Review;</li> <li>• Economic feasibility studies;</li> <li>• Bridges design</li> </ul> <p>Activities performed:</p> <ul style="list-style-type: none"> <li>• Contributing to the sourcing and management of Scott Wilson road sector projects in the Southern Africa region;</li> <li>• Design review, cost estimation and preparation of contract documentation for the Karonga - Chitipa Road (90kms) in northern Malawi for ADB;</li> <li>• Review of the economic feasibility study for the Karonga - Chitipa Road (90kms) in northern Malawi for ADB;</li> <li>• Engineering management activities for the design and supervision of construction of four major bridges in Malawi</li> </ul>

	<p>(EU Funding);</p> <ul style="list-style-type: none"> <li>• Coordination of design of Rivi Rivi River Railway Bridge in Southern Malawi;</li> <li>• Participation in the design review of Chapananga River Bridge in Malawi;</li> <li>• Preliminary work on the development of a 50km Toll Road between Harare and Beatrice in Zimbabwe including traffic analysis, cost benefit analysis etc;</li> <li>• Preliminary design of ten bridges and other minor crossings in Niassa Province, Mozambique for Ireland Aid;</li> <li>• Preliminary road route selection and design, Chapananga Bridge, southern Malawi.</li> </ul>
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Date: from to (month/year)	March 2002 to March 2003
Location	Zimbabwe
Client	Danida – Danish International Development Agency
Position	Independent Consultant
Description	<p>Road Sector Capacity Building</p> <p>Main project features:</p> <ul style="list-style-type: none"> <li>• Maintenance management software development;</li> <li>• Advisory services on change management;</li> <li>• Awareness creation on importance of maintenance.</li> </ul> <p>Activities performed:</p> <ul style="list-style-type: none"> <li>• Developing a Microsoft Access based Maintenance Management System (MMS) for use by road authorities in Zimbabwe;</li> <li>• Marketing and distributing MMS system amongst road authorities and conducting training in the use of the same;</li> <li>• Providing advisory services to the Ministry of Justice’s Department of Deeds, Patents and Intellectual Property on commercialisation of the department;</li> <li>• Providing advisory services to the City of Harare on contracting out of maintenance works;</li> <li>• Shareholder, Board member and Director of Infracon (Pvt) Ltd, a Labour Based Construction Company established in 1997.</li> <li>• Conducting awareness and introductory seminars for road authority staff on behalf of the Zimbabwe Statutory Road Fund;</li> <li>• Developing road user charges and fund allocation systems for the Zimbabwe Statutory Road Fund;</li> <li>• Conducting awareness seminars for the Zimbabwe National Road Administration (ZiNaRA) Board.</li> </ul>

Date: from to (month/year)	July 2001 – February 2002
Location	Zimbabwe
Client	Association of Rural District Councils of Zimbabwe/Danida

Position	Independent Road Fund Consultant
Description	<p>Road Sector Reform and Capacity Building</p> <p>Main project features:</p> <ul style="list-style-type: none"> <li>• Advisory services to Danida on project strategies, monitoring and evaluation;</li> <li>• Strategic advice to the rural district councils association;</li> <li>• Monitoring construction and maintenance works.</li> </ul> <p>Activities performed:</p> <ul style="list-style-type: none"> <li>• Advisory services to Danida on project strategies, monitoring and evaluation;</li> <li>• Providing strategic advice to the rural district councils association on the policy and functioning of the Road Fund as well as back up support on technical procedures;</li> <li>• Preparing a comprehensive strategy for co-ordination and preparation of Road Fund maintenance works programmes for the year 2002 covering both technical and financial issues;</li> <li>• Recommending suitable treatment selection, prioritisation models and submission formats for use by rural road authority engineers in preparing maintenance programmes;</li> <li>• Promoting implementation of maintenance management systems by the rural road authorities;</li> <li>• Researching, designing and distributing simple practical tools for use in costing routine and periodic maintenance works;</li> <li>• Convening and facilitating several Road Fund workshops and training seminars for engineers, technicians, treasurers and road authority executives;</li> <li>• Monitoring construction and maintenance works in rural and urban councils on behalf of the Road Fund.</li> </ul>

Date: from to (month/year)	May 2000 – June 2001
Location	Zimbabwe
Client	Zimbabwe Road Sector Reform Steering Committee/Danida
Position	Independent Institutional Reform Consultant
Description	<p>Road Sector Reform</p> <p>Main project features:</p> <ul style="list-style-type: none"> <li>• Advisory services to Danida on project strategies, monitoring and evaluation;</li> </ul> <p>Activities performed:</p> <ul style="list-style-type: none"> <li>• Advising Danida on project strategies, monitoring and evaluation;</li> <li>• Responsible for the launching of the Road Fund and facilitating disbursements to road authorities as from April 2001.</li> </ul>

Date: from to (month/year)	March 1997 – April 2000
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Location	Zimbabwe
Client	Ministry of Transport and Energy
Position	Project Manager, Reform and Development Coordinating Unit (RDCU)
Description	<p>Road Sector Reform, Development Programme Preparation and Capacity Building</p> <p>Main project features: Project Management, Stakeholder Consultations; Legal Instruments Drafting; Procurement and Coordination of Consultancy Services; Reporting to Benefactors and Government.</p> <p>Activities performed:</p> <ul style="list-style-type: none"> <li>• Responsible for managing process to revise road legislation and set up a Road Fund to finance road maintenance in Zimbabwe;</li> <li>• Coordination of preparations for Zimbabwe’s Road Maintenance and Reform Project to be funded through World Bank and AFDB loans. Preparation involved hosting and providing information to the following missions : Project Identification, Pre-appraisal and Appraisal;</li> <li>• Responsible for initiating and coordinating preparation of World Bank/AFDB Project Outlines; Project Implementation Plans; Procurement Plans; Operational Manuals and Works Programmes;</li> <li>• Responsible for managing consultancies in the following areas: <ul style="list-style-type: none"> <li>✓ Feasibility Study on the setting up of a Road Fund in Zimbabwe (<i>WSP International</i>);</li> <li>✓ Revision of the Roads Act (<i>Scott Wilson</i>);</li> <li>✓ Functional Reclassification of Zimbabwe’s Road Network (<i>GIBB Africa</i>);</li> <li>✓ Review of Road Investment Appraisal Methods (<i>SweRoad/WSP International/Civil Consult</i>);</li> <li>✓ Preparation of a Five Year Road Investment Programme for Rehabilitating Zimbabwe’s Road Network (<i>SweRoad</i>);</li> <li>✓ Environmental Assessment of Zimbabwe’s Road Maintenance Project (<i>Scott Wilson</i>);</li> <li>✓ Review of Road Sector Organisations Structures and Preparation of a Human Resources Development Programme (<i>SweRoad et al</i>);</li> <li>✓ Road Sector Reform and Development Promotional Campaign (<i>Saatchi &amp; Saatchi</i>);</li> </ul> </li> <li>• Responsible for undertaking an exercise to update Zimbabwe’s road inventory; undertake condition surveys of the entire national road network and reclassifying it into functional classes;</li> <li>• Heading the RDCU and assuming overall responsibility for its day to day operations;</li> <li>• Coordinating all stakeholder efforts, administrative, technical and financial aspects of all tasks directly related to reform and development in the road sector;</li> <li>• Establishing and maintaining efficient and effective communication links among all parties involved in the reform process, that is government departments, local authorities, the donor community etc.;</li> </ul>

	<ul style="list-style-type: none"> <li>• Developing strategic and operational plans for the implementation of recommendations resulting from the reform process;</li> <li>• Providing secretarial services to the Road Sector Reform Steering Committee including organising and participating in study tours to New Zealand, Zambia, United Kingdom, Sweden, South Africa, Mozambique and Namibia;</li> </ul> <p>Accounting and budgetary control of funds at the RDCU's disposal (over US\$ 2.5 million).</p>
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Date: from to (month/year)	January 1996 - February 1997
Location	Zimbabwe
Client	Ministry of Transport and Energy
Position	Deputy Director Planning and Designs
Description	<p>Planning and Design of all road infrastructure falling under the Department of Roads; consisted of the primary road network.</p> <p>Activities performed:</p> <ul style="list-style-type: none"> <li>• Directly responsible for all divisions falling under the Deputy Director Planning and Designs;</li> <li>• Assisting Director of Roads in administering the entire road network in Zimbabwe;</li> <li>• Planning of projects under the Public Sector Investment Programme;</li> <li>• Preparation of project proposals for all issues related to the road sector;</li> <li>• Responsible for the following ADB funded feasibility studies : Murambinda-Birchenough Bridge Road (110kms); Macheke-Mrewa Road (60kms); Skyline-Mubaira-Chegutu Road (120kms); Mberengwa-West Nicholson Road (120kms); Gwanda-Maphisa Road (100kms);</li> <li>• Responsible for the following Kuwaiti Fund funded feasibility studies : Landos-Mahusekwa Road (45kms); Bulawayo-Nkayi Road (100kms);</li> <li>• Co-ordination Road Sector Reform and Development project formulation and sourcing of funding;</li> <li>• Responsible for engagement of consultants for planning and design of projects;</li> <li>• Representing Zimbabwe in SADC/SATCC and RMI meetings.</li> </ul>

Date: from to (month/year)	Sept. 1993 - Dec. 1995
Location	Zimbabwe
Client	Ministry of Transport and Energy
Position	Chief Engineer and Highway Design Engineer - Highway Design Division
Description	<p>Main project features:</p> <ul style="list-style-type: none"> <li>• Kwekwe Roasting Plant Rd, design of 4 kms; 7/10 road; surfaced.</li> <li>• Birchenough - Murambinda Rd, design of 40 kms; 6/8 road; surfaced.</li> <li>• Byo - Victoria Falls Rd, rehabilitation design of a 4 km</li> </ul>

	<p>distressed section, reference made to SATCC Design Guidelines and ORN31;</p> <ul style="list-style-type: none"> <li>• Essex - Burma Valley Rd, design of 21kms; 6/8 road; surfaced.</li> <li>• Gwanda - Maphisa Rd, design of 40kms; 6/8 road; surfaced.</li> <li>• Kanyemba Border Post Road, design of 4kms; 6/8 road; surfaced.</li> <li>• Chiutsa River Bridge, design and detailing of a 1 x 14m span s/s r.c. bridge.</li> <li>• Nyazvidzi River Bridge Approaches, design of approaches to structure.</li> <li>• Nyaure River Bridge Approaches, design of approaches to structure.</li> <li>• Umvumvumu River Bridge Approaches, re-design of approaches to structure.</li> </ul> <p>Activities performed: Management :</p> <p>Responsible for day to day administration of division inclusive of:</p> <ul style="list-style-type: none"> <li>• Supervising a team of design engineers and technicians.</li> <li>• Preparation of bid documentation for design commissions,</li> <li>• Evaluation of submissions by consultants.</li> <li>• Monitoring of on-going commissions by consultants, and</li> <li>• Division financial control.</li> </ul> <p>Technical design: Route selection, geometric design, pavement design, drainage design, drawing, detailing of and construction monitoring of projects. Use made of SATCC standards, Overseas Road Notes, etc.</p>
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Date: from to (month/year)	September 1992 to September 1993
Location	United Kingdom
Institution	University of Birmingham
Position	Post-Graduate Student
Description	M.Sc. Degree in Highway Engineering

Date: from to (month/year)	February 1991 to September 1992
Location	Zimbabwe
Client	Employed by Ministry of Transport and Energy
Position	Senior Bridges Design Engineer, Bridges Branch
Description	<p>Main project features:</p> <ul style="list-style-type: none"> <li>• Nyadiri River Bridge Design, detailing and monitoring of construction of a 2 x 14m span s/s r.c. bridge.</li> </ul>

	<ul style="list-style-type: none"> <li>• Mudzongwe River Bridge Design, detailing and monitoring of construction of a 2 x 17m span s/s r.c. bridge.</li> <li>• Nyahodi River Bridge Design, detailing and monitoring of construction of a 2 x 19m span s/s r.c. bridge.</li> </ul> <p>Activities performed: Designing, monitoring of construction of bridges</p> <ul style="list-style-type: none"> <li>• Other duties <ul style="list-style-type: none"> <li>✓ Preparation of design commissions.</li> <li>✓ Evaluation and award of design commissions.</li> <li>✓ Monitoring of commissions and approval of payments to consultants.</li> <li>✓ Review of bridge design, construction and maintenance methods.</li> </ul> </li> </ul>
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Date: from to (month/year)	June 1990 to January 1991
Location	Mashonaland East Province Zimbabwe
Client	Employed by Ministry of Transport and Energy
Position	Construction Engineer
Description	<p>Main project features: Road and bridge construction project management of the following projects :</p> <ul style="list-style-type: none"> <li>• St Annes - Mtiweshiri Rd; (7/7; 34km)</li> <li>• Mrewa - Madicheche Rd; (7/7; 33km)</li> <li>• Shamba River Bridge; (2x20m spans)</li> </ul> <p>Activities performed: Responsible for all site teams constructing the projects by Force Account; responsible for allocation of resources, supervision of the works and financial monitoring.</p>

Date: from to (month/year)	December 1987 to May 1990
Location	Zimbabwe
Client	Employed by Ministry of Transport and Energy
Position	Resident Engineer
Description	<p>Main project features:</p> <ul style="list-style-type: none"> <li>• Mashonaland West Province - Karoi Binga Road, (38kms, surfaced; 40kms gravel).</li> <li>• Masvingo Province - Lothian Zaka Triangle Road, (40kms, surfaced)</li> <li>• Masvingo Province (ARE) - Zvishavane Buchwa Road, (23kms, surfaced) + Shavi River Bridge, (3x20m spans; reinforced concrete)</li> <li>• Mashonaland East Province (ARE) - Widdecombe Road Upgrading, (7km)</li> </ul> <p>Activities performed: Full responsibility for the construction supervision of above mentioned projects whilst stationed on site.</p>

## Camilla Lema

**Family name:** LEMA  
**First names:** Camilla  
**Date of birth:** 18<sup>th</sup> May 1958  
**Nationality:** Tanzania

### Education:

Institution	Institute of Transport Studies, University of Leeds, United Kingdom
Date: from (month/year) to (month/year)	September 1999 to September 2000
Degree(s) or Diploma(s) obtained:	MA in Transport Economics

Institution	Loughborough University of Technology, United Kingdom
Date: from (month/year) to (month/year)	September 1988 to September 1989
Degree(s) or Diploma(s) obtained:	MSc in Construction Management

Institution	University of Dar es Salaam Tanzania
Date: from (month/year) to (month/year)	July 1981 to March 1985
Degree(s) or Diploma(s) obtained:	BSc in Civil Engineering (majored in Highways Engineering)

**Language skills:** mark 1 (worst) to 5 (best) for competence:

Language	Reading	Speaking	Writing
Swahili	5	5	5
English	5	5	5

### Membership of professional bodies:

One of the founder members of the International Forum for Rural Transport and Development (IFRTD)  
 Member of Tanzania Roads Association (TARA)

### Key qualifications:

Camilla Lema has about 30 years of professional experience in the transport sector covering mainly roads and integrated rural transport development. Specific areas include:

- Development of integrated rural transport policies and strategies
- Programme/project appraisal and design, including rural access and mobility programmes
- Planning methodologies including strategic planning at national level, local level planning and Integrated Rural Accessibility Planning (IRAP)
- Procurement methods at various levels including community contracting
- Economic valuation of rural transport projects
- Roads sector institutional reforms
- Gender mainstreaming in transport programmes, policies and strategies

- Capacity building – including training of local contractors, local community empowerment and participatory methodologies
- Studies/research and knowledge building in roads and rural transport sub-sectors
- Well acquainted with systems and working procedures of central and local governments, fieldwork experience at grassroots level, and experience with international and multi-lateral development agencies

**Specific country experience:**

Country	Date from (month/year) - Date to (month/year)
Tanzania	Tanzania (April 2009 – December 2010), 2001 – 2002, 1992 – 1999, 1987 – 1992, March 1985 – July 1987
Kenya	November – December 2006
Uganda	May 2012 – August 2013 (intermittent)
Ethiopia	July 2014 to September 2015 (intermittent)
Zimbabwe	July 2002 – March 2006
Zambia	May 2006 – October 2007 (intermittent)
Malawi	January 2003 – December 2005 (intermittent)
Lesotho	February 2008 to June 2008
Italy	January 2007 – September 2008 (intermittent)
USA	January 2011 – February 2014

**Professional experience records (projects):**

Date: from to (month/year)	July 2014 to September 2015
Location	Dar es Salaam, Tanzania
Company	Independent Consultant
Position	Independent Consultant
Description	<p>Intermittent backstopping of the Africa Transport Policy Program (SSATP)/World Bank second Development Plan – transport sector management program of activities. The assignment ended in March 2015.</p> <p>A team member of ACTS Consultancy (UK) consortium for Analytical Study on “Innovation in Delivery of Better Basic Services: Challenges and Opportunities for Ethiopia”, to support efforts on expanding access and improving quality of basic services. My specific area of focus was on identification and analysis of rural roads subsector innovations to generate relevant knowledge for strengthening Ethiopia’s innovation in the provision of quality basic access that is responsive to local needs and national requirements for inclusive growth. The assignment was funded by AfDB for the Government of Ethiopia and completed in September 2015.</p>

Date: from to (month/year)	January 2011 to June 2014
Location	Washington DC and Dar es Salaam (March – June 2014)
Company	Sub-Saharan Africa Transport Policy Program (SSATP) under the World Bank, Washington DC

Position	Senior Transport Specialist
<ul style="list-style-type: none"> <li>• Description</li> </ul>	<p>Leadership and management of the SSATP Theme 2 program of activities covering Road Management and Financing, Urban Accessibility and Mobility, Rural Transport (RT), Railways, Transport Sector Data Management, and cross-cutting issues. Activities included technical advice and support to SSATP member countries in policy development. E.g. support was provided to the Governments of Uganda and Nigeria respectively to develop and update RT policies and strategies, geared to promoting the adoption of good policies and strategies for transport sector in Sub-Saharan Africa. Support for transport sector data management aimed at strengthening capacities of partner countries for effective planning, monitoring and evaluation of transport sector performance, and for evidence-based policy development and decisions. Also, capacity building in Road Management and Financing aimed to strengthen capacities for planning and evaluation of road network performance, and to foster efficiency in road asset management. Program activities were performed in a three cycle process covering knowledge creation (development of concept notes, analytical work and peer reviews), knowledge dissemination and advocacy – knowledge application. Policy guidance in partner countries was provided in partnership with other development partners in the transport sector. As part of knowledge generation the following publications (available on SSATP website) were produced based on analytical studies conducted at regional/or continental level between 2011 and 2014 under my leadership of Theme 2:</p> <ul style="list-style-type: none"> <li>• Good Policies and Practices on Rural Transport (two separate publications)</li> <li>• Monitoring &amp; Evaluation</li> <li>• Planning &amp; Prioritization of Infrastructure and Services</li> <li>• Private Sector Involvement in Road Financing (focused on Public-Private-Partnerships – PPP)</li> <li>• Policies and Guidelines for Establishing a Sustainable Transport Sector Data Management System</li> <li>• Road Management Policy: An Approach to the Evaluation of Road Agency Performance</li> <li>• Policies for Sustainable Accessibility and Mobility in Urban Areas of Africa</li> <li>• Framework for Improving Railway Sector Performance in Sub-Saharan Africa</li> </ul>

Date: from to (month/year)	April 2009 – December 2010
Location	Tanzania
Company	COWI Denmark
Position	Technical Advisor
Description	Technical Advisor for the Department of Policy and Planning, Ministry of Infrastructure Development (MOID) in Tanzania. The TA covered support to the Ministry to strengthen sector coordination, strategic planning and monitoring of the transport

	<p>sector in Tanzania comprising of roads, rail, port and aviation subsectors. Main objective was to build appropriate capacity at the directorate of policy and planning in MOID to take the lead role in formulating national policies and strategies for transport sector. The work involved capacity building and coordination between MOID and other institutions/agencies in the transport sector for joint planning, evaluation and monitoring functions. Draft guidelines were developed for strategic planning at national level. It also involved coordination of transport sector donors in joint sector reviews and monitoring leading to development of effective strategies for joint support of the sector to meet national and international development goals. Other components of the TA covered support for environmental and road safety activities in MOID.</p>
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Date: from to (month/year)	February 2008 to June 2008
Location	Lesotho
Company	Practical Action Consulting UK
Position	Road Engineering Specialist
	<p>Study of Basic Access and Mobility Needs in Lesotho commissioned by the Government of Lesotho to Practical Action Consulting, UK. As a Road Engineering Specialist in the study team my main tasks involved: reviewing and developing appropriate standards for roads and basic access infrastructure in Lesotho, developing criteria for selection and prioritising access needs, developing guidelines for integrated planning in the provision of access within the ongoing decentralisation reforms, identifying appropriate contractual arrangements for road maintenance, and developing a framework for the expansion and maintenance of rural, peri-urban and urban road system focussing on basic access needs of users.</p>

Date: from to (month/year)	November 2007 to September 2008 (Intermittent)
Location	Dar es Salaam (base) & Italy (mission)
Company	International Fund for Agricultural Development (IFAD)
Position	Principal Consultant
Description	<p>The assignment was commissioned by the International Fund for Agricultural Development (IFAD) in Rome. I was engaged as a Principal Consultant for review, in collaboration with other consultant to undertake desk-work study of RTT documentation and extraction of key lessons and experience for use in programme designs and knowledge sharing. The review involved interviews with various RTT experts within and outside IFAD, which resulted in definition of RTT grant proposals and plan of action for pilot demonstrations by IFAD in collaboration with service providers in RTT.</p>

Date: from to (month/year)	January to April 2007
Location	Dar es Salaam (base) & Italy (mission)
Company	International Fund for Agricultural Development (IFAD)
Position	Rural Transport Consultant
Description	Technical review of rural infrastructure programme components commissioned by IFAD Rome. This entailed; (i) reviewing and re-drafting of Rural Infrastructure Learning Notes for use by IFAD to guide the design of infrastructure and transport components within their investment portfolio; and (ii) reviewing over 25 appraisal and formulation documents for ongoing and past IFAD supported programmes/projects with sizeable infrastructure components. The key lessons and experiences were documented to enhance the quality control of ongoing programmes and also to be used for future programme designs.

Date: from to (month/year)	November to December 2006
Location	Kenya and Italy
Company	Ministry of Agriculture in Kenya
Position	Rural Infrastructure Expert
Description	Appraisal of Smallholder Horticultural Marketing Programme under the Ministry of Agriculture in Kenya. The assignment was commissioned by IFAD Rome. The appraisal mission comprised four multi-disciplinary experts. Specific task was to appraise the infrastructure component of the programme of rural and feeder roads, basic access infrastructure, physical markets and post-harvest facilities in seven districts. A working paper on market – derived infrastructure component was prepared as a programme design document.

Date: from to (month/year)	May 2006 to October 2007 (intermittent)
Location	Zambia
Company	ILO and DANIDA (for Roads Development Agency)
Position	Rural Transport Advisor
Description	Short-term technical assistance to the Small-Scale Community Access (SSCA) programme under the Roads Development Agency in Zambia. Engaged as a Rural Transport Advisor, commissioned by ILO Lusaka with funding from DANIDA. The assignment included preparation of guidelines for planning, design and implementation of SSCA improvements in Zambia, which can also be applied in similar environments.

Date: from to (month/year)	September 2006 to July 2007
Location	Tanzania
Company	International Forum for Rural Transport and Development (IFRTD) and ILO/ASIS
Position	Principal Consultant

Description	Principal Consultant for the ‘Makete Approach’ Study, a joint initiative of the International Forum for Rural Transport and Development (IFRTD) and ILO/ASIST – Africa, funded by SIDA Stockholm. They study covered Tanzania, Zimbabwe and Malawi. It provided key learning for rural transport programmes’ design and execution. The international workshop to share the findings and set the way forward was conducted in Tanzania in October 2008.
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Date: from to (month/year)	July 2002 – March 2006
Location	Harare, Zimbabwe
Company	ILO/ASIST
Position	Senior Technical Advisor
Description	<p>Access and Rural Employment</p> <p>Overall responsibilities: Management of the Access and Rural Employment (ARE) component of ASIST – Africa. This included development of concepts, policies, programme design, planning and support for implementation of activities with focus on linking rural access development, employment creation opportunities and poverty alleviation. Core countries included Malawi, Zambia, Zimbabwe, Kenya, Tanzania and Uganda.</p> <p>Specific duties covered:</p> <ul style="list-style-type: none"> <li>• Contribution to ASIST programme development, review processes and strategic planning</li> <li>• Preparation of concept notes, project proposals, annual plans, budgets and service agreements for ARE component based on partner consultations</li> <li>• Initiating and providing technical support for activities which build the planning, implementation and monitoring capacities in the core countries, focussing on rural access and mobility. This involved development of guidelines for rural accessibility planning, design and implementation, taking into account the Poverty Reduction Strategy Papers (PRSPs), employment creation and decentralisation</li> <li>• Recruitment and management of consultants for ARE assignments. Studies included, ‘The study of community contracting practices and organisation modalities for infrastructure works’ – in four countries; and ‘the assessment of evidence based and methodologies for poverty reduction impact assessment in EIIP/ASIST – Africa programme’.</li> <li>• Designing capacity building programmes including development of ARE training materials and guidelines and support to higher learning institutions in preparation of ARE training courses.</li> <li>• Knowledge building, sharing and networking through studies, technical papers and articles, and cultivating partnerships with other development agencies.</li> <li>• Contributing to policy development and analysis processes, which involved contribution in the formulation of transport policy for Zimbabwe and participation as a core task team member for the poverty reduction transport policy review process in 2005. Also included substantial input on gender, HIV/AIDS, employment creation and poverty alleviation</li> </ul>

	strategies to the draft transport policy for Malawi.
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Date: from to (month/year)	2001 - 2002
Location	Tanzania
Company	Iringa Municipal Council
Position	Team Leader for Strategic Planning
Description	Strategic Planning for Road and Storm Water Drainage Rehabilitation and Maintenance in Iringa Urban Municipality, Tanzania. The assignment was commissioned by Sustainable Iringa Project under the Iringa Municipal Council.

Date: from to (month/year)	2001 - 2002
Location	Tanzania
Company	ITECO Engineering Ltd
Position	Freelance Consultant
Description	Preparation of a Framework of Action for Gender Mainstreaming in the Districts Road Support Programme (DRSP) in Morogoro; and the District Roads Financing Study for DRSP. The two separate assignments were commissioned by ITECO Engineering Ltd. Of Switzerland.

Date: from to (month/year)	2001 – 2002
Location	Tanzania
Company	Swiss Agency for Development and Cooperation (SDC) in Tanzania
Position	Rural Transport Consultant
Description	Study on “Communities’ Willingness and Ability to Pay for the Improvement of Rural Transport Infrastructure in Tanzania” Commissioned by the Swiss Agency for Development and Cooperation (SDC) in Tanzania. The study covered social perspective of rural transport infrastructure improvements – with evaluation of the impacts on performance of primary education, health and agricultural sectors. Recommendations were provided to contribute to the development of respective sector policies and strategies.

Date: from to (month/year)	1999 - 2000
Location	United Kingdom
Company	University of Leeds
Position	Student
Description	MA Degree in Transport Economics Dissertation work covered the “Assessment of Communities’ Ability and Willingness to Pay for the Improvement of Rural Transport Infrastructure in Tanzania. This led to cost-benefit analysis and valuation of rural travel time saving within the

	Village Travel and Transport Project in Morogoro Rural District.
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Date: from to (month/year)	1992 - 1999
Location	Dar es Salaam, Tanzania
Company	Swiss Agency for Development and Cooperation (SDC)
Position	Programme Officer for Infrastructure and Transport Sector
Description	<p>Overall responsibilities: Management of sector programme covering technical and institutional support for transport and infrastructure projects, namely the Morogoro Roads Support Programme, Morogoro Rural Roads Project, Makete Integrated Rural Transport Project and the Village Travel and Transport Programme in Morogoro region. Key principles for the sector were quality, optimisation of local resource use and sustainability.</p> <p>Specific duties involved:</p> <ul style="list-style-type: none"> <li>• Development of concepts and strategies for SDC's support to the transport sector programme and the institutions operating within the sector, including central and local governments, private sector, and the local communities</li> <li>• Projects/programme design and appraisals, including organisational appraisals</li> <li>• Preparation of annual plans and monitoring indicators for the sector activities</li> <li>• Preparation of contract agreements and procurement services</li> <li>• Preparation and management of projects assessments, review and external evaluations</li> <li>• Capacity building and empowerment of local private contractor in the construction industry</li> <li>• Responsible for donor coordination and policy dialogue for the sector programme</li> <li>• Participation in the road sector institutional reforms including preparations for the establishment of Roads Fund and Tanzania Roads Agency (TANROADS)</li> <li>• Participation in the development of the National transport Policy for Tanzania</li> </ul>

Date: from to (month/year)	1987 - 1992
Location	Dar es Salaam, Tanzania
Company	National Construction Council (NCC)
Position	Research Engineer
Description	<p>Key responsibilities:</p> <ul style="list-style-type: none"> <li>• Research work for building and construction materials available in Tanzania.</li> <li>• Training of local contractors in road works execution with emphasis on labour-based technology and construction management.</li> <li>• Roads management trainee in Dar es Salaam – Mlandizi Highway rehabilitation project.</li> </ul>

Date: from to (month/year)	March 1985 – July 1987
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Location	Tanzania
Company	Ministry of Works, Communication and Transport Tanzania
Position	Assistant Executive Engineer
Description	<ul style="list-style-type: none"><li>• Client's counterpart staff in Dar es Salaam urban road improvement project.</li><li>• Contractor trainee in Dar es Salaam Port Extension project.</li><li>• Client's counterpart staff for the Arusha – Minjingu Highway project.</li><li>• Involvement in the three projects covered broad orientation to: road and port construction, building works execution, human resource planning and management, plant and equipment management, productivity and quality control and site supervision.</li></ul>

Other relevant information (e.g. Publications):