
Technical Assistance to PMO-RALG IDU to develop Road Research Capacity in Dodoma

Inception Report

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January 2014

CONTRACT REF NO. AFCAP/TAN/130



This project was funded by the Africa Community Access Programme (AFCAP) which promotes safe and sustainable access to markets, healthcare, education, employment and social and political networks for rural communities in Africa.

Launched in June 2008 and managed by Crown Agents, the five year-long, UK government (DFID) funded project, supports research and knowledge sharing between participating countries to enhance the uptake of low cost, proven solutions for rural access that maximise the use of local resources.

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This material has been funded by UKaid from the Department for International Development, however the views expressed do not necessarily reflect the department's or the managing agent's official policies.

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Report summary

AFCAP is providing TA assistance to the Infrastructure Development Unit in PMO-RALG of the government of Tanzania, to achieve its objective of setting up a low volume road research unit in Dodoma and to develop a strategic plan for implementation of its research priorities in accordance with the National Transport Policy of 2003. This Inception Report is the first deliverable of the project setting out the project plan and programme.

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List of Abbreviations/

ACET	Association of Consulting Engineers of Tanzania
ADRICS	Annual District Roads Inventory and Condition Survey
ADT	Average Daily Traffic
AFCAP	Africa Community Access Programme
ATTI	Appropriate Technology Training Institute
bn	billion
CE	Council Engineer
CRB	Contractors Registration Board
D-by-D	Decentralisation by Devolution
DC	District Council
DE	District Engineer
DP	Development Partner
DRDP	District Roads Development Programme
DROMAS	District Roads Management System
EIA	Environmental Impact Assessment
ERB	Engineers' Registration Board
FY	Financial Year
GOT	Government of Tanzania
HDM	Highway Development and Management System
IDU	Infrastructure Development Unit
JICA	Japanese International Cooperation Agency
JISR	Joint Infrastructure Sector Review
JTC	Joint Technical Committee
LBM	Labour-based methods
LGA	Local Government Authority
LGRICS	Local Government Road Inventory and Condition Survey
LGTP	Local Government Transport Programme
LRDF	Local Road Development Fund
MDG	Millennium Development Goals
MLYDS	Ministry of Labour, Youth Development and Sports
MOF	Ministry of Finance
MOT	Ministry of Transport
MOH	Ministry of Health
MOW	Ministry of Works
Mkukuta	"Mkakati wa Kukuza Uchumi na Kupunguza Umaskini Tanzania": the National Strategy for Growth and Reduction of Poverty (NSGRP)
MTEF	Medium Term Expenditure Framework
NCC	National Construction Council
NEMC	National Environmental Management Council
NGO	Non-Government Organisation
NMT	Non-Motorised Transport
NRTP	National Rural Transport Programme
NSGRP	National Strategy for Growth and Reduction of Poverty (Mkukuta)
NTP	National Transport Policy
PMO-RALG	Prime Minister's Office -Regional Administration and Local Government
PMU	Procurement Management Unit
PPRA	Public Procurement Regulatory Authority
PS	Permanent Secretary

RAS	Regional Administrative Secretary
RF	Road Fund
RFB	Road Fund Board
RS	Regional Secretariat
RTD	Roads and Transport Division
SSATP	Sub-Saharan Africa Transport Programme
SUMATRA	Surface and Marine Transport Regulatory Authority
TACA	Tanzania Contractor Association
TACECA	Tanzania Civil Engineering Contractors Association
TANROADS	Tanzania National Roads Agency
TAROTA	Tanzania Truck Operators Association
TASAF	Tanzania Social Action Fund
TATOA	Tanzania Tanker Operators Association
TIU	Transport Infrastructure Unit
TSH	Tanzanian Shilling
TSIP	Transport Sector Investment Programme

Abstract/

AFCAP is providing support to the Road Research Centre Project in Tanzania and has received a request to purchase various laboratory and testing equipment from the Prime Minister's Office Regional Administration and Local Government (PMO-RALG) Infrastructure Development Unit (IDU), Tanzania. This project is to assist the IDU to achieve its objective of setting up a low volume road research centre in Dodoma and to develop a strategic plan for implementation of its research priorities in accordance with the Draft National Transport Policy (2012).

This assignment:

- Conducts a needs assessment study, based on the mandate of PMO-RALG in general, and the IDU in particular, for the establishment of low volume road research capacity in Tanzania. The study is carried out in-country and in consultation with the Road Fund Board, the Director of IDU and her team. Consultations with other stakeholders, particularly the Central Materials Laboratory (CML) are being held as and when required but with approval from the PMO-RALG.
- Prepares a policy framework to guide future rural road research activities.
- Prepares a strategic plan for the identification and implementation of priority research activities under the ambit of the IDU in the short, medium and long term.
- Sets out the next steps.

1. Introduction

1.1 Background

Reliable access is essential for rural communities in Africa. Access is required to reach basic services and all kinds of economic and social opportunities. Unreliable and difficult access reduces growth opportunities and negates the benefits from investments in other sectors designed to improve the livelihoods of poor communities.

The Africa Community Access Programme (AFCAP) is a research programme funded by the UK Government’s Department for International Development (DFID). AFCAP is promoting safe and sustainable rural access in Africa. AFCAP supports knowledge sharing between participating countries in order to enhance the uptake of low cost, proven solutions for rural access that maximise the use of local resources.

1.2 Building local research capacity

Building local research capacity in African countries is a long term objective of AFCAP. Regional research projects funded by DFID and other donors in the 1980s and 1990s produced important outputs, but they relied heavily on foreign expertise. There was limited transfer of capacity to local partners. AFCAP has created an awareness of the value of research in the participating countries and has provided some of the tools needed by governments to establish their own research programmes. Funding for research is now available from government budgets and from road user charges collected by road funds; but the establishment of research institutions with suitably qualified and experienced staff remains a considerable challenge.

1.3 National development agenda, policies and plans

Tanzania aspires to become a medium developed country by 2025. The Tanzania Development Vision 2025 accords high priority to infrastructure development because of its importance to social and economic development. The Vision puts great emphasis on the development of rural roads as absolutely essential for promoting rural development. The Government considers that no sustainable and meaningful socio-economic development can take place in rural areas while the condition of the roads is poor.

The overarching goal of Tanzania’s immediate development agenda is the reduction of poverty. The strategy to achieve this is described in Tanzania’s National Strategy for Growth and Reduction of Poverty II (NSGRP II, July 2010), more commonly known as Mkukuta II. The Mkukuta II strategy reaffirms that infrastructure development is at the centre stage of the economic development process. Mkukuta puts the improvement of rural roads first in the order of priority for transport infrastructure. The use of labour-based methods, which have the widest application in local transport infrastructure, is second in order of Priority Areas in transport physical infrastructure:

- Primary infrastructure in rural areas (feeder, collector, community roads);
- Labour-based methods in rural roads construction and maintenance;
- Transit traffic facilitation (port and maritime);
- Trunk and regional roads;
- Rail and air transport and sea ports;
- Urban transport.

The Ministry of Transport has recently prepared a new draft National Transport Policy (NTP, 2012). This and the associated strategy describe how the transport sector will contribute to national goals and objectives. The box below shows the vision and goals of the policy.

National Transport Policy

The Vision:

“To have an efficient and cost effective domestic and international transport services to all segments of the population and sectors of the national economy with maximum safety and minimum environmental degradations.”

The Mission:

“To develop safe, reliable, effective, efficient and fully integrated transport infrastructure and operations which will best meet the needs of travel and transport at improving levels of service at lower costs in a manner, which supports government strategies for socio-economic development, whilst being economically sustainable”.

The policy for rural transport states how improvements will be addressed through:

- Improving Rural Transport Infrastructure
- Improving Rural Mobility
- Improving Community Village Infrastructure
- Building of Capacity at the District Level to Manage Rural Infrastructure
- Employment Creation and the Adoption of Labour-Based Work

The policy for urban transport states how improvements to urban transport will be addressed through:

- Improvement in Land Use Planning and Transport Demand Management
- Improving and Managing the Urban Road Network
- Establishment of a Rapid Transit System in Large Cities such as Dar es Salaam
- Improvement of Traffic Management and Parking Control
- Planning and Management of Freight Transport in Dar es Salaam
- Improvement of Institutional Arrangements and Funding of Urban Transport
- Consultation with Local Communities

The Government of Tanzania adopted a ten year (FY2007/8 to 2016/17) Transport Sector Investment Program (TSIP) in February 2007. The TSIP was planned to be implemented in two consecutive five year plans. Consequently, implementation of the TSIP Phase 2 covers FY2012/13 to FY2016/17 is intended to enhance the role the transport sector strategic goals ensuring:

- All the trunk roads are paved by 2018;
- All regional centres are linked with paved roads, and all district headquarters with all-weather roads of at least gravel standard by 2018;
- Urban mobility and accessibility as well as rural transport and travel are improved;
- The railway network is revamped and is effectively utilized in such a way that long distance bulky goods are carried by railways in a more cost effective way;
- Seaport capacity is expanded from the current 10,000 million tons to about 20,000 million tons per year by year 2020;
- All major airports are operating at international standards while the key domestic ones remain operational all year round;
- Transport safety & security are enhanced; and
- Private sector participation in infrastructure investment is enhanced.

The Prime Minister’s Office-Regional Administration & Local Government (PMO-RALG) has therefore developed the Local Government Transport Programme (LGTP). The LGTP forms the framework for all transport projects

within the local government system. It constitutes a comprehensive sector-wide approach and is part of the overall transport investment framework, which addresses rural and urban transport infrastructure and services. The first phase of the LGTP was implemented from July 2007 to June 2012 having a budget of USD 430 million over 5 years. The second phase of LGTP started in 2012 and is due to end in 2017.

Based on the above analysis of the national goals, policies and strategies, the vision for LGTP 2 is:

“A local government transport system that allows the safe passage of goods and people throughout the year and supports the economic development of the country.”

The main long-term goal of LGTP 2 is to bring all roads under the responsibility of local government authorities up to a standard that permits traffic to pass throughout the year. This means carrying out works on roads in poor condition to improve passability. Infrastructure connecting areas of high economic potential or social importance will be steadily upgraded to permit smoother and faster travel and all-weather access. A regular system of maintenance will ensure that these standards are sustained over time.

Achievement of this vision implies that all the bottlenecks that currently prevent or significantly constrain access will have been removed. Moreover, the local government roads will be passable to normal traffic in all seasons of the year, there will be in-built resilience to climate change to ensure the integrity of the network in the longer term. A system will also be in place to identify and provide investment for the highest priority roads for upgrading.

1.4 National Road Network

The lengths of National and LGA Classified roads are given in the following table which shows the total length of LGA roads as 58,037km. However, there is general agreement that the actual length of the LGA road network is much greater than that given in the table and a figure of over 100,000km is anticipated. Further work on verification and reclassification is needed. Supporting evidence for this discrepancy arises from the situation in which some roads which have previously been maintained for many years are not included in the current classification and therefore, no longer qualify for funding from the maintenance budget.

Type	Lengths(Km)	%
District Roads	29,340	31.9
Feeder Roads	22,703	24.7
Urban Roads	5,994	6.5
Total Classified LGA roads	58,037	63.1
Total Classified National roads	33,891	36.9
Total Classified Roads	91,928	100.0

Source: Local Government Transport Programme (LGTP) Phase 2 (2012/13 -2016/17)

Most roads falling under the responsibility of PMO-RALG are unsealed earth or gravel. Sealed roads in this network are for the most part restricted to towns. Very few are sealed and the current target for sealing under LGTP2 is 663km by the year 2016/17 as shown in Table 1.2.

	JISR	LGTP 2					Total LGTP 2
	11/12	12/13	13/14	14/15	15/16	16/17	
A: ROADWORKS ACTIVITY DURING YEAR (KM)							
Upgrade - earth to gravel	187	85	641	1,258	1,679	1,980	5,643
Upgrade - gravel to bitumen	56	45	71	140	187	220	663
Upgrade - total	243	130	712	1,398	1,866	2,200	6,306

Source: Local Government Transport Programme (LGTP) Phase 2 (2012/13 -2016/17)

The target for upgrading gravel roads to a bituminous standard given in the table would appear to be rather low to assist with Tanzania’s target for economic development. Furthermore, the current annual target for upgrading for subsequent years up to 2025/26 remains at the 2016/17 level of 220 km. These targets will be revisited with PMO-RALG to determine whether they can be increased.

Much of the research on roads in Africa over the last 10 years or so has been aimed at developing new techniques for sealing roads at reduced cost to the extent that it is often cheaper in life-cycle terms to apply a low-cost seal that to repeatedly re-gravel, especially in areas where good gravel is scarce. Many countries in Africa are now using techniques (egs Otta sealing) for sealing rural roads especially those in villages and for spot improvement works. A similar programme in Tanzania carried out under the Rural RRC would demonstrate the benefits of low-cost sealing, present opportunities for their application in local in the local environment and the use of locally available materials.

2. Project Terms of Reference

AFCAP has agreed to provide support to the Road Research Centre (RRC) Project and to the establishment of a laboratory in Dodoma and has received a request to purchase various laboratory and testing equipment for PMO-RALG. The list of equipment has been put together based on the recommendations of the Central Materials Laboratory (CML) in Dar es Salaam. This laboratory is intended to serve as a pilot for setting up PMO-RALG regional laboratories, servicing 4-5 districts that currently rely on the TANROADS Regional Labs for quality control testing on projects, as well as the first step towards establishing a low volume roads research capacity in Dodoma.

2.1 Objective

The overall objective of this assignment is to assist the Infrastructure Development Unit in PMO-RALG to achieve its objective of setting up a low volume road research unit in Dodoma and to develop a strategic plan for implementation of its research priorities in accordance with the National Transport Policy.

This assignment seeks to:

- Conduct a needs assessment study, based on the mandate of PMO-RALG in general, and the IDU in particular, for the establishment of low volume road research capacity in Tanzania. The study will be carried out in-country and in consultation with the Road Fund Board, the Director of IDU and her team. Consultations with other stakeholders, particularly the Central Materials Laboratory (CML) will be held as and when required but with approval from the PMO-RALG.
- Prepare a policy framework to guide future rural road transport research activities.

- Prepare a strategic plan for the identification and implementation of priority research activities under the ambit of the IDU in the short, medium and long term.

3. Scope, key tasks and research activities

3.1 Description of services

To achieve the objective of the assignment, a four-fold approach is required covering:

- a) The case for low volume road (LVR) research
- b) The funding of research
- c) An appropriate institutional structure to undertake research
- d) Development of a LVR Research Strategy

It is expected that **Phase 1 (Development of a LV Road Research Strategic Plan – object of current ToR)** will be followed by Phase 2 (Establishment of Low Volume Road Research Unit).

3.2 Key Tasks to be carried out

Many of the key initial tasks to be carried out by the project team have been completed, included those which are required for the inception phase of the project, and others are ongoing. The outcomes of the activities completed to date are summarised below together with the methodology to be undertaken to complete any remaining tasks required for the compilation of the Draft Preliminary Report, which will also include more detailed information on the results of meetings and interviews.

3.2.1 Understand institutional and administrative set up in the PMO-RALG and IDU.

During the first visit, the team has met the PMO-RALG IDU Director (Eng E Kayanda), the research Liaison Officer (Eng H Mataka), and other stakeholders, identified key documents, identified the links with other national and Local Government organisations and reviewed relevant technical and policy documents.

3.2.2 Identify main constraints facing the road sector, focussing on rural roads, and key reports, studies and research.

Although previously familiar with some past and ongoing research in the road sector, including AFCAP projects, the project team have increased its knowledge of many of the main problems in the road sector in Tanzania through meetings with the Director and other staff in PMO-RALG IDU, District and Municipal engineers, TANROADS and CML. Some of the issues/problems identified are specific to Tanzania, but other constraints are similar to those in other countries (eg Ethiopia and Kenya), where similar projects to establish a road research capability have been initiated to solve problems in the sector.

Our existing knowledge has been extended by reviewing the reports, standards, research papers provided by the Liaison Officer and other personnel. The literature review has been supplemented by interviewing appropriate PMO-RALG staff members and others as mentioned above. The information gained from these meetings will feed into Task 4 (Main needs), as the constraints, barriers are identified and will help to inform the identification of the road research needs. The research Liaison Officer has played a central role in facilitating the information collection and arranging stakeholder interviews.

3.2.3 Identify how road research is currently being undertaken, which subject areas are being covered, which institutions are involved and the funding sources.

A desk study has been carried out to collect and review the relevant documents and a list of these is given in Appendix 2. The team has undertaken a systematic review of the existing research roles, responsibilities and capabilities of the stakeholders, including work carried out by TanT² and universities. Having been involved in road research in East Africa for a number of decades, TRL will also be able to identify studies that have been

undertaken by other countries which may be relevant. This would give us a perspective of where there are gaps and how future research should be developed. Establishing the funding sources for these studies could also provide ideas on potential sources of funding for road research in Tanzania.

3.2.4 Identify major needs for LV Road Research and where research is likely to have the greatest payoff.

It is generally considered important that road research is directed towards the needs of the country as a whole, and the areas where it is likely to have the largest impact. However, it has been decided that, initially, the RRC will be established within PMO-RALG in the IDU and will concentrate on addressing problems associated with the provision and maintenance of district roads. For example, research could help to improve access to rural areas to support the agricultural industry, make trade routes to neighbouring countries more efficient and reduce road construction and maintenance costs.

Some of the main problems areas and research needs have already been established through the interviews and discussions with the main stakeholders. This discussion process will continue and the results included in subsequent reports and a comprehensive needs assessment will be developed to identify the key research areas. The results will form the basis for the structure of the research centre and a priority research programme. For example, a material testing laboratory could facilitate research to make better use of local materials, and a quality control research group could investigate methods of controlling the quality of construction so it is more durable to seasonal flooding. The team will also identify potential research partners to assist in accelerating growth, and initiating activities that address the research priorities and topics with which the centre could align and develop.

The needs assessment is being carried out in conjunction with PMO-RALG and other primary stakeholders, so that the research programme aligns with their mandates. The topics identified will be refined from this dialogue and sifting process to produce a 'research framework'. Within this research framework; a priority research programme with a 5 to 10 year horizon and individual research projects will be outlined.

Projects will be defined and prioritised based on discussions with PMO-RALG and budget limitations. The sifting and screening processes will be an initial scoping process in this phase.

Estimations of costs, benefits, timescales and targets, outputs and measures of success will be required at a later phase before project implementation.

3.2.5 The team will help identify current relevant collaborative programmes of research in the road sector.

A provisional list of current/collaborative research programmes is set out in Section 6.2.

There may be a number of "quick wins", where a small investment in research can produce a large benefit for the country in a short time period. These will also help to demonstrate the benefits of research to politicians, and encourage further support from funders.

A programme of 'quick-win' projects based on ongoing research, some of which have been commissioned under AFCAP and being monitored by CML, could be included in the proposed list of projects in initial RRC research programme and be carried out in collaboration with CML.

Many issues facing Tanzania are common to other countries and collaborative research is an ideal way to pool resources and transfer good practice. Consideration of the relevance of current research programmes in East Africa and elsewhere, the results of which could be of benefit to Tanzania, or which could be replicated in Tanzania for calibration to local conditions, will also be considered.

3.2.6 Identify existing domestic and international sources of research funding. Explore potential funding sources for LVR research.

In order to identify sources of funding it will be necessary to make links and partnerships with potential funders. The consultants' team have a wide knowledge of international funding bodies that may be willing to fund

research, and will be able to assist PMO-RALG in making those links and contacts, although it is recognised that PMO-RALG already has strong links with a number of international development partners.

There are indications of a more strategic approach being taken by donors in making funds available to help build research capacity in the sector rather than building capacity through projects. There are reasonably strong indications that donor partners will help fund the initial phases in the establishment of an RRC although local long-term funding from local sources will be essential for ensuring the sustainability of the RRC. However, the RRC will also need to prove itself as a credible organisation in order to attract both international funding and local funding and the results from the 'quick-win' and other short term projects will be designed to achieve this objective.

Of the international donor agencies, several have funded related projects in neighbouring countries. DfID, AFCAP, JICA and World Bank have shown interest in supporting the development of indigenous research capacity through the establishment of RRC's and it is hoped that these or other development partners will support this similar initiative in Tanzania. There are also relatively new funding sources, such as the Adaptation Fund, set up to help developing countries become more resilient to climate change. These will be included in the list of possible funding sources to be explored. Research into methods to improve the resilience of road infrastructure to increasing flooding and erosion could be funded through these sources.

In the private sector, some private companies, for example those in the construction sector, could possibly assist in funding and these and other possible options will be discussed at the workshops. It is unlikely that transport operators, for example bus or freight companies - most of which are relatively small, could provide finance.

3.2.7 (a) Examine the establishment of an RRC and (b) the role that relevant tertiary institutions should play in the research.

- (a) The decisions around the establishment of a research unit, its roles and sustainability are not straightforward and depend on a range of considerations around vision, scope, priorities, funding and institutional framework.

Issues such as the expected capacity of the Research Centre and hence what level and quantity of skill-set will be required. This will be based on a review of the current activities and structure of PMO-RALG and discussions on the expected role of the RRC with the stakeholders. This consultation process has already been initiated at the Inception Meeting, which developed into a workshop opened by the Acting Permanent Secretary of PMO-RALG and attended by approximately 30 participants (see Section 5.4 Inception meeting). These issues will be addressed in more detail in the preliminary report, which will include views from ongoing discussions with stakeholders and at the subsequent workshops.

PMO-RALG has already drafted a possible structure for the RRC and how it will fit into the IDU structure.

- (b) The proposed research to be undertaken will also be analysed to gain an appreciation of the future requirement, and to provide an idea of the roles the relevant institutions would play.

It is clear that projects undertaken by the RRC will also provide opportunities for collaboration with academic institutions in Tanzania, for example for PhD students whilst. sub-projects of the research are likely to be suited to the practical components of BSc and MSc courses. These options will be discussed with the University of Dar es Salaam and others identified during the course of the project. The Rural Road Research Unit would also offer potential employment opportunities for graduates who wish to focus on research.

3.2.8 Prepare draft LV Road Research Policy placing a strong emphasis on the mandate of PMO-RALG and present it at a workshop.

A draft Low Volume Road Research Policy for Tanzania will be developed for discussion with PMO-RALG. This will build on Tasks 1 to 7 above, taking into account the research needs identified, the structure and facilities of the

research centre, the potential for collaborative work and role of universities. The transport research policy will support the objectives of the Tanzania Government and align with the mandate of PMO-RALG. Therefore, the relevant government documents will be reviewed as part of this task.

The policy will address the problems identified in Task 4 in a co-ordinated way, setting out the framework for the Research Strategy. The project team will use its experience of developing and reviewing transport policy documents to identify any potential conflicts or barriers.

The draft Policy will be shared with the stakeholders at a workshop, where it will be discussed and input sought on its relevance and priorities.

3.2.9 Provide guidance on the key 'next steps' for developing LV road research capacity in PMO-RALG IDU.

The project team are evaluating information collected during the ongoing tasks and identify the next steps for developing the road research capacity. The logical next steps will be determined based on feedback from stakeholders and in liaison with PMO-RALG IDU.

There are clearly a number of considerations associated with the establishment and development of a research capacity in Tanzania. These include:

- Scope of activities
- Structure
- Human resources
- 1yr business plan, 5yr and 10yr concepts and long term Vision
- Funding arrangements, including primary and auxiliary
- Sustainability of funding
- Institutional setting
- Patrons/leadership
- Reporting lines

Other factors that could influence choice of options include:

- Use of existing facilities/new facilities/combo
- Networking of existing sites/offices
- Difficulties associated with approvals for setting up an 'independent' establishment
- Disparate reporting and accountability if more than one Ministry involve

3.2.10 Prepare draft LV Road Research Strategic Plan, which is designed to achieve the policy objectives.

Key National policy objectives and plans are set out in Section 1.3. These will be studied in detail and will be used to identify LV road research strategies to help deliver the plans, programmes and targets. The research strategies will then set out priority programmes and activities for the short and long term with the aim of reducing costs of construction and maintenance and improving access for sustainable economic development. Examples of the types of activities being used in other East African countries include:

- Local material properties for road building,
- The performance of road pavements in particular climatic zones,
- Appropriate solutions bearing in mind local economic and physical environment, cost structures, institutional set up etc.
- Analysis of traffic demand and forecasting of traffic volumes and modal split

- Road inventory and asset management systems
- Development of different interventions on road accident rates
- Examination of the rural accessibility and mobility.
- Impacts of climate change

The draft strategic plan will be presented and discussed at the stakeholder workshops.

3.3 Primary activities/functions of the RRC

Through discussions at the Inception Workshop and through various stakeholder and IDU meetings, the following list of provisional activities and functions have been identified.

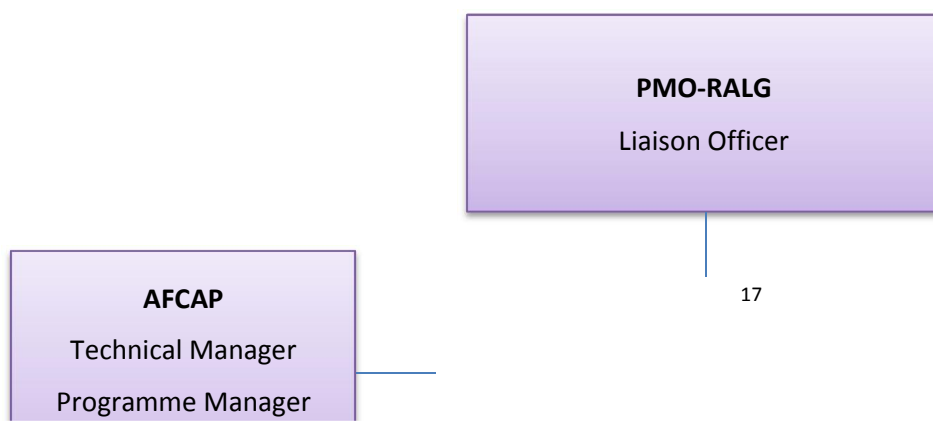
- Establish a modern and comprehensive materials laboratory for testing of materials used in road works and quality control on projects, as well as training of laboratory personnel.
- Develop data management systems for research projects being undertaken throughout the country.
- Become a leading institution dedicated to research on all matters related to district road asset management, road design, construction, maintenance and operation. Such research will be carried out in a number of ways, including:
 - Outsourced to academic institutions (e.g., graduate and post-graduate programmes at Universities of Dar es Salaam & other tertiary institutions
 - Through local and international consultants
- Provide services for quality control of construction projects being undertaken on the District road network.
- Undertake independent Technical Audits of selected road projects where quality is suspected to have been compromised.
- Develop and verify new design and operational standards and specifications for the use of materials in road construction, maintenance systems, etc.
- Periodically review existing manuals for appropriateness, and develop new standards and specifications as may be required.
- Establish a knowledge management facility for cataloguing, storage and dissemination of rural road transport knowledge, and establish linkages between this facility and CML, as well similar facilities in the region and internationally. In collaboration with TANROADS/CML, other regional and international research centres

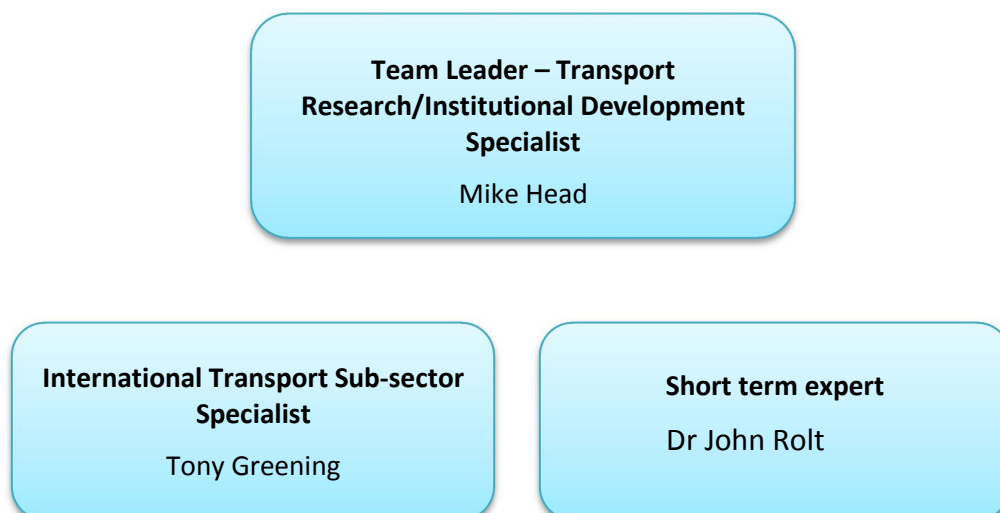
4. Work plan, programme and deliverables

This section introduces the Project Structure, its team members, the Work Plan, Programme and the Inception Workshop.

4.1 Project team

The team structure is shown in Figure 1.





4.2 Work plan

The project milestones and their target dates are:

Milestone	Description	Time after project commencement
• Inception report	Inception report including work plan and timetable, key issues and approach, minutes of inception meeting, list of documents to be reviewed and people to interview.	2 weeks
• Preliminary report	This will consist of the initial findings of the project and draft policy framework.	6 weeks
• Workshop One	The draft policy framework will be presented to the stakeholders for discussion.	8 weeks
• Draft final report	The draft final report will include the revised policy framework and draft strategic plan.	12 weeks
• Workshop Two	The draft strategic plan will be presented to stakeholders for discussion.	14 weeks
• Comments on the draft final report	All comments on the draft final report will be received.	16 weeks
• Final report	The Final Report including the finalised Policy Framework and Strategic Plan taking into account comments will be submitted.	18 weeks

- **Final sign-off by AFCAP/DFID will sign off the project report. AFCAP management** 20 weeks

4.3 Programme

Based on the above work plan and on discussions with PMO-RALG IDU, the following programme has been agreed:

	Month	Jan-14					Feb-14					Mar-14					Apr-14					May-14				
Staff	Weeks	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21				
Report/Workshop					IR		PR			W1				DFR				W2			FR					
Mike Head	10																									
Tony Greening	6																									
John Rolt	2																									

4.4 Inception Meeting

An Inception Workshop was held at PMU-RALG UDU offices at Dodoma on 16th January, 2014. It was attended by 27 representatives of various departments of PMO-RALG and the the IDU, see Appendix 3, Inception workshop Attendees. The Welcome address was made by the Ag PS PMO-RALG (see Section 9.1) and the meeting was chaired by Eng Kayanda. After presentations on the scope, project plans, programmes and deliverables by the consultants, discussions took place to agree priorities and issues that have specifically informed the scope and content of this Inception Report.

Additional meetings and discussions have since taken place with CML TANROADS, the Roads Fund Board, JICA, DFID and staff members of other relevant current projects and programmes, which will be reported in the Preliminary Report.

5. Key issues to be addressed

The study and meetings have identified the following preliminary issues and priorities that will need to be addressed during the project:

- Need to communicate and coordinate this initiative closely with CML–TANROADS and Road Fund Board (RFB)
- Information and communication on project progress with MOT and MOW.
- Economic benefits of outcomes of research to national GDP and potential for reduced costs of construction and maintenance (more for less)
- Need for improved data on the road network and its performance
- Establishment and management of more effective road mapping, road condition and asset database, including structures
- Understanding of links with DROMAS and integration with future development of the software package
- Establishment of national road material/aggregate inventory and database for use in construction and maintenance
- More accessible field and laboratory testing, monitoring and quality control

- More economic design, upgrading and rehabilitation of roads
- Low cost seals, including design, life cycle costs and economics
- Improved design manuals and related training
- Better understanding of causes of road and structural failure and remediation
- Improved performance of contractors for both labour-based and equipment based, including capacity building
- Knowledge management through EDMS
- Training and capacity building on research, laboratory and field testing
- Improved management of maintenance backlog, programming and prioritisation
- Whole life costs and climate change effects mitigation

Further listing of relevant actions and approaches are set out in Section 8.

6. Relevant documents and projects

The following lists have been compiled for evaluation.

6.1 List of documents to be reviewed

- Vision 2025
- LGTP 2, 12/13 – 16/17
- TSIP, 12/13 – 16/17
- NSGRP/Mkukuta II
- Draft NTP, 2012
- AFCAP Reports and Publications
- SADC Guidelines
- National design guides, manuals and handbooks

6.2 Current projects/programmes

- AFCAP LVR Manuals
- AFCAP DCP training
- DFID Improving Rural Access in Tanzania (IRAT)
- EU Capacity Building for PMO-RALG/SMEC
- EU Capacity Building for MOW
- JICA Capacity Building for District Engineers
- US AID Partnership for Growth
- WB Tanzanian Strategic Cities
- WB Dar es Salaam Metropolitan Development Project

7. Relevant stakeholders, funders and Institutions

There are a wide range of organisations who will take an interest and will be invited to contribute to the development of a RRC.

7.1 Relevant stakeholders/funders

- PMO-RALG
- CML TANROADS
- Roads Fund/LRDF
- AFCAP/DFID/WB/JICA/USAID/China/AfDB/NORAD
- MOW/TANROADS
- MOT
- Regions/Districts/Councils

7.2 Relevant institutions

- University of Dar es Salaam
- Tan T2
- Appropriate Technology Training Institute (ATTI)
- Tanzania Bureau of Standards
- Dar es Salaam Institute of Technology (DIT)
- MUST
- Arusha Technical College

8. Key actions for way forward

The following immediate actions have been established at Inception Phase:

8.1 Establish Road Research Centre immediately covering both urban and rural roads

The Director of IDU, PMO-RALG Eng E Kayanda has indicated that she wishes to implement the establishment of a Road Research Centre for LV roads immediately and has identified an unofficial structure for IDU to accommodate it. At some stage in the future she expects it to broaden its remit to cover all roads and eventually all transport.

Dr Deo Mtasiwa, Acting PS, PMO-RALG and Deputy PS (Health), at his address to the Inception Workshop, supported the development of a research centre and its associated activities programme; and encouraged its immediate establishment and implementation. He recommended the close involvement of all regions and councils, as well as cooperation with relevant stakeholders and recognised the key importance of relevant data analysis, knowledge and innovation - aimed at delivering improved access and associated national economic benefits. In order to ensure sustainability of the initiative he requested that a funding policy be developed and immediate attention to budgeting proposals. He will be kept informed of progress in order to assist in its development.

Discussions with a potential candidate Road Research Coordinator will take place shortly. The RRC offices will be housed within the PMO-RALG Dodoma HQ and the Laboratory will be located in Council buildings close by. The establishment of the RRC will be announced at the time of circulation of this Inception Report.

8.2 Strategic plan to start with LV roads and progressively broaden to all roads and transport

All relevant Policy Documents have been identified in order to determine current and planned Government priorities, strategies, plans and targets. The Project Strategic plan will reflect those policies and plans; and priorities will be determined based on their relative contribution and to national economic development.

LV Roads have been given a high priority in the NTP, TSIP II and LGTP II. The development of a strategic plan to deliver capacity and improvements is the prime output of this Phase. It is recognised that research is needed for all roads and for transport in general, so guidelines will be developed to broaden the scope to cover these at some future date.

8.3 Start research implementation programme in this Phase

The RRC will act as an information collection and dissemination Centre. Plans are being developed to interface and cooperate with all relevant projects identified in Section 6.2. Quick win projects will be identified to create maximum impact from this project in the next 6 months.

Three Priority Programmes have been identified:

- LV roads trials, demonstrations and monitoring
- Road asset inventory, condition and trafficking data and information
- National road material and aggregates database and inventory.

These, coupled with information documenting and cataloguing through EDMS, will form both short and long term programmes and efforts will be made to fast track research programme implementation during this Phase.

Sources of funding will be explored for both the Establishment of the RRC and its research programme. The RFB are considering allocating a sum in the next budget for staff and facilities. Discussions will take place to seek funding for Long Term and Short Term Technical Assistance support from DFID, JICA, USAID, EU and AFCAP II as well as specific funded studies and research projects.

8.4 Progressively establish research representatives in all Regions and Councils and a research forum

Consideration will be given to how the RRC interfaces with the Regions and Councils, as well as the various stakeholders. In order to engage more effectively, the Acting PS, PMO-RALG is seeking to establish Research Representatives across Tanzania. The practicality of this, along with the possibility of setting up a Research Forum, will be assessed.

8.5 Establish Electronic Data Management System (EDMS) and library

PMO-RALG does not currently have a library or an EDMS. Plans to develop both will be discussed with PMO-RALG and a programme for implementation.

8.6 Establish LV road research and materials laboratory in Dodoma

Establishment of the RRC will require the provision of a materials laboratory to support its activities. The laboratory will be located at the Municipal Council offices in Dodoma. A suitable portion of the building has been identified for renovation as a laboratory together with associated offices. A budget will be established for staffing and other costs required for commissioning and running the laboratory. A provisional list of equipment for the laboratory has already been prepared by AFCAP. Additional equipment may also be required to carry out the monitoring of trial sections.

8.7 Establish and submit budgets as matter of urgency

Through discussions with the Director, PMO-RALG IDU and RFB, a provisional budget is being established to cover, staff, facilities, consumables and other associated costs the RRC, Laboratory at Dodoma and Zonal Laboratories as a **Cost Centre** for submission in April, 2014.

8.8 Organise 2 project workshops at Morogoro with first to be held on 6th March to discuss draft research policy and outline strategic plan

The first Workshop will be held on Thursday 6th March to discuss the Preliminary Report containing the outline Research Strategy and Business Plans. Invitations will be sent out to all participants by the beginning of February, along with an Agenda for the day. It is planned that the report will be circulated to attendees by mid-February.

Appendices/

Appendix 1: Bibliography

(TO BE DEVELOPED FURTHER DURING THE PROGRAMME)

National Vision 2025, Tanzania (1999)

The overall aim of the National Vision 2025 is to transfer Tanzania from a least developing to a middle income country. This transfer is envisioned to turn Tanzanian economy into a strong, competitive economy that will provide improved socio-economic opportunities, public sector performance and environmental management. This vision is based on the principle sustainable development, where present generations will be able to derive benefits to rational use of natural resources of the country, without compromising the needs of future generations.

National Transport Policy, Revised 2012. Draft Final Report.

10-Year Transport Sector Investment Programme (TSIP), Phase 2 (FY2012/13 – FY2016/17)

Local Government Transport Programme (LGTP), Phase 2 (2012/13-2016/17)

The Case for Transport Research in Tanzania, its Funding and Institutional Location (2012), Transport Policy Support Programme, MOT

AFCAP Reports and Publications

SADC Guidelines

National design guides, manuals and handbooks

Appendix 2: Inception Workshop Attendees/

Appendix 2: Inception Workshop Attendees/

ATTENDANCE

STAKEHOLDER MEETING ON RESEARCH PROJECT AT DODOMA. DATE 16/01/2014

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