

# Capturing and disseminating rural transport knowledge from senior experts

FA7 - Education and training in the roads sector

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**Abstract:** Since the start of the 6-year Research for Community Access Partnership (ReCAP) in 2014, it has been observed that the already small pool of experienced senior international rural transport experts is aging, and that action should be undertaken to capture and retain the knowledge of this pool for future practitioners. Although no inventory of these experts exists, many are over the age of 60 and their knowledge is increasingly likely to be lost to the sector. So far, ReCAP has involved a number of these experts through formal roles in the programme, such as in the ReCAP Technical Panel, but more generally through their involvement in specific research assignments.

A dedicated effort to inventorise the experts and to capture and disseminate their knowledge has been implemented during 2018 to ensure the long-term availability of their knowledge for the sector, independently of their actual involvement in the ReCAP programme. The project mainly (but not solely) addressed capturing the *tacit* knowledge of the senior experts, i.e. “the skills, ideas and experiences that people have but are not codified and may not necessarily be easily expressed.” (Chugh et al, 2015).

This paper will go into the methodology and media used to extract this tacit knowledge. It has been complemented with (a selection of) explicit knowledge that the experts authored or contributed to. Furthermore, the paper will address the means and channels of dissemination that have been put in place to spread the knowledge as widely possible. It will equally address the plans and progress for a ReCAP mentoring platform with involvement of the targeted experts.

**Key words:** Knowledge management; knowledge retention; dissemination; rural transport knowledge; expertise; tacit knowledge; explicit knowledge; mentoring

## 1. The rationale: the potential loss of valuable transport sector knowledge

The Research for Community Access Programme (ReCAP), is a 6-year research programme into the provision, preservation and sustainable use of rural transport infrastructure in Sub-Saharan Africa and South Asia. The programme is funded through a grant by UKAid and managed on behalf of the Department for International Development by Cardno Emerging Markets, United Kingdom. ReCAP seeks to strengthen the evidence base on more cost effective and reliable low volume road and transport services approaches, thereby influencing policy and practice. ReCAP works with local institutions in 17 partner countries:

- DR Congo, Ghana, Ethiopia, Kenya, Liberia, Malawi, Mozambique, Sierra Leone, South Sudan, Tanzania, Uganda and Zambia, in Sub-Saharan Africa; and
- Afghanistan, Bangladesh, Myanmar, Nepal and Pakistan in South Asia.

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knowledge of this pool. Although no inventory of these experts existed previously, many are estimated to be over the age of 60 and their knowledge is increasingly likely to be lost to the sector beyond ReCAP.

The ReCAP Knowledge Management strategy addresses this issue under its strategic direction concerning improving the access to, and dissemination of, rural road and transport services research evidence. This includes the tacit knowledge available with key experts. So far, ReCAP has involved a number of these experts through formal roles in the programme, such as in the ReCAP Technical Panel, but more generally through their involvement in specific research assignments. However, a solid inventory of these experts and their expertise was lacking and there was a risk of losing their knowledge for the transport sector in the long run.

In its effort to capture and ensure the availability of the rural transport knowledge that is likely to be lost, ReCAP is following a two-tier approach. Firstly, it formulated and tendered a project to provide an inventory of the experts and to capture and disseminate their knowledge so as to ensure the long-term availability of their knowledge for the sector, independently of their actual involvement in the ReCAP programme, or any other transport related programme. Secondly, it actively looked into establishing a mentoring programme, where experience senior experts are linked with early career professionals in Road Research Centres in ReCAP partner countries to enhance local research capacity and its sustainability. Both of these efforts and their progress at the time of writing are further explained in this paper.

## **2. ReCAP's knowledge retention project**

### ***2.1 ReCAP's request to the market***

The purpose of this unique knowledge retention project, as formulated in the Request for Proposals in December 2017, was to map and document the key expertise held by a set of approximately twenty (20) experienced senior rural transport experts, in order to make it permanently available for the sector in the long term. It included the mapping and documenting of their tacit knowledge including key areas of expertise, beliefs, values and attitudes. This was to be complemented with (a selection of) explicit knowledge that they authored or contributed to.

Figure 1 below depicts the distinction between tacit and explicit knowledge. Explicit knowledge is the knowledge that is documented and hence easy to share, such as research reports, journal articles and conference presentations for example. Tacit knowledge, however, is undocumented knowledge that resides in peoples' minds and that can often not easily be expressed, such as beliefs, attitudes and values. Tacit knowledge can be made explicit through personal interaction with the holder of the knowledge, such as through interviewing, story telling and mentoring.

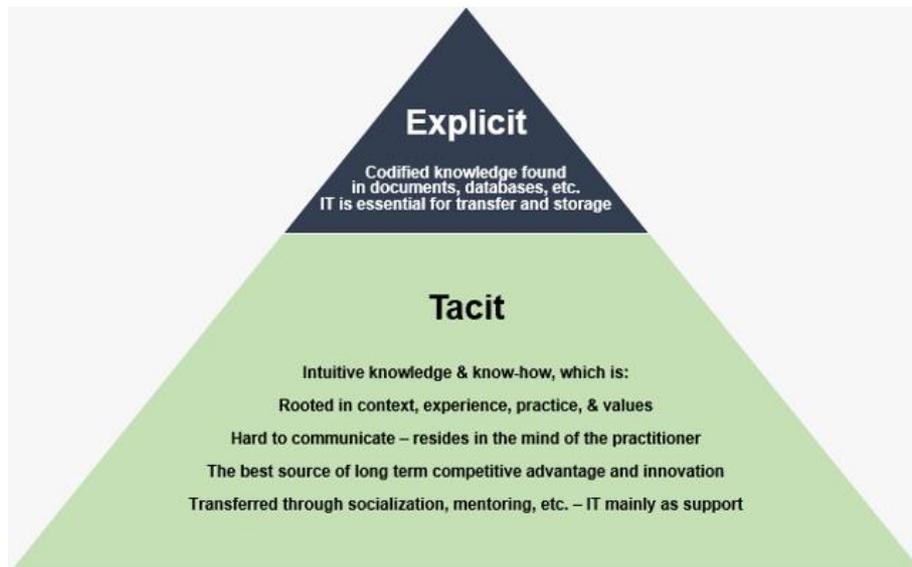


Figure 1 - Organisational knowledge base, consisting of tacit and explicit knowledge (Frost, 2017)

The project assignment included the task to make the information gathered through ReCAP's knowledge retention project widely available through a variety of channels for all ReCAP target audiences to access freely. The ReCAP target audiences include:

- Africa- and Asia-based rural road & transport services researchers and their institutions;
- Africa and Asia-based transport decision makers at national, regional and local levels;
- Local communities in focus countries; and
- Partners and stakeholders (bi-laterals, multilaterals, NGOs, other sectors, advocacy partners, etc.) on national and international levels.

The terms of reference furthermore included a general methodology to be followed in the project, to be refined further over an inception period. The methodology included the following steps:

- Defining the methodology;
- Knowledge acquisition;
- Dissemination; and
- Final reporting, including recommendations for possible extensions of the knowledge retention project.

After a successful tender procedure the assignment was awarded to Transaid, United Kingdom, and activities started in April 2018.

## 2.2 The chosen methodology

This assignment emphasises the importance of harnessing both the explicit and tacit learning from senior rural transport experts for use by a wider transport practitioner audience. Tacit knowledge belongs to an often-overlooked dimension of technological knowledge and can be defined as the knowledge accumulated through experience and practice or what is commonly known by the expressions 'learning by doing' or 'learning by using'. The consultant's understanding of the importance of capturing this knowledge is built into its knowledge management principles and guide the development of Transaid's published case studies, tools, and other technical materials shared via an online Knowledge Centre. In line with its own organisational aims relating to knowledge management to improve access to relevant technical knowledge for colleagues working in similar transport related fields, Transaid drew on its extensive networks worldwide to develop a definitive list of targeted senior rural transport experts in collaboration with ReCAP, many of whom are known through previous assignments. It is through these existing relationships that Transaid was able to develop an initial list which tried to be thematically representative of rural transport expertise worldwide.

Based on Transaid's commitment to knowledge management and its experience of operating our own knowledge-sharing platform, the team applied these learnings to create a well-

packaged means of accessing the information provided by senior rural transport experts in such a way to reach as broad an audience as possible.

In terms of packaging the expertise, the project planned to film interviews with the intention of developing short bite-size films as a way of engaging a wider audience of transport practitioners. It was felt that one-to-one interviews arranged according to themes would provide visual tasters to potential viewers, acting as a gateway to a more in depth investigation into rural transport research carried out by the rural transport experts targeted.

Key to achieving this was ensuring the searchability of filmed content when interviewing different individuals, based largely around rural transport themes rather than the individuals themselves. It was thought that potential viewers were unlikely to watch long videos or a series of films with different experts speaking on identical topics – however, instead preferring to watch videos that they could be confident of learning relevant information from. For this reason, the project team packaged the filmed content in a similar way to chapters of a book, combining interviews where several experts shared views on the same key topic, for maximum impact. Key themes and topics were identified and chosen in collaboration with the ReCAP team. These were aligned with ReCAP’s Way Forward Strategy, of which the key themes are depicted in Figure 2 below.

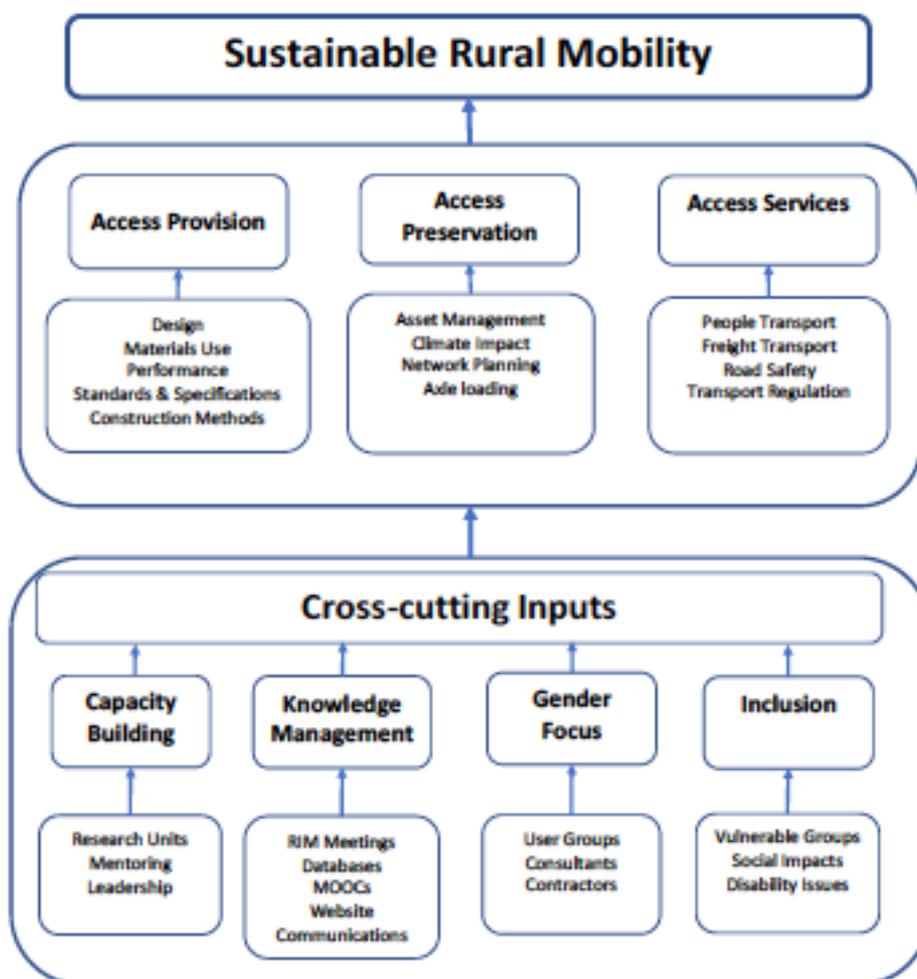


Figure 2 – Key elements of ReCAP and Sustainable Mobility

The project team brought multidisciplinary expertise in transport services, rural road infrastructure and communications putting Transaid in a strong position to quality assure content and to contribute that expertise to the topics discussed. An interview/travel plan was developed and the project team actively looked for opportunities to cluster interviews, thereby carrying out multiple interviews at events such as rural transport conferences where groups of

targeted senior rural transport experts were in attendance. Where this wasn't possible, interview clusters were planned based on the home locations of senior rural transport experts. This maximised the cost effectiveness of the project approach and allowed Transaid to ensure that the outputs were of the highest quality. To ensure that those experts that are targeted are representative, the project team also expected to travel and presented a multilingual team to capture non-English content.

Whilst a large portion of the project focus was on the content of the information contributed by identified experts, substantial attention was paid to the way this information is packaged and presented to maximise its relevance to the wider rural transport practitioner community. Whilst the original terms of reference suggested producing videos of between four and six minutes long with each expert, it has been agreed that structuring these interviews in such a way that as part of the editing process, the footage can be segmented according to topics, and would be accessible in bite-sized portions according to the desired topic required. This meant several shorter videos with some individuals (each focussing on a different topic) were produced, otherwise content from multiple interviews was edited together to produce short videos which combined thought leadership from a variety of the chosen experts – packaging the content to make it the most relevant, engaging and beneficial to the viewer. This was scoped out during the initial and detailed knowledge mapping exercise where primary subject areas were identified for our targeted experts to focus on.

As with interviews broadcast on television news, where possible the footage included cut-away footage on the topics being discussed. The use of B-roll and stills images helped to break up 'talking heads' wherever possible, in order to make the content as visually appealing as possible. All filming was conducted in high-definition and the master files were output in ReCAP's preferred file format.

### **2.3 The foreseen outputs and dissemination solutions**

The success of this assignment depends on the quality and relevance of the material recorded, which in turn will be demonstrated by the number of online views and visits and the way this information is applied in the future. ReCAP's expectation was for this online resource to capture the core subject areas related to rural roads and transport services from key senior experts in this field, and in turn to be presented in a way which was both appropriate and relevant to maximise its use in the longer term.

A final report will provide an overview of the final programme, tools developed and a summary of the online resources (videos and profiles) that were developed. In order to facilitate further engagement, knowledge sharing and collaboration, a set of recommendations for future monitoring in terms of most sought after subjects, target audience, overall promotion as well as future capture of a wider group of global senior rural transport experts will be a key outcome.

All knowledge gained during the overall process will also be disseminated through ReCAP dissemination channels and Transaid's online Knowledge Centre, further strengthening the objective of knowledge sharing, empowering partners and facilitating new connections and further dialogue amongst participants. The idea of a webinar was proposed as a means of promoting the films, and ReCAP will make use of its regular dissemination of e-shots to further promote this resource to its audience – which currently stands at more than 1800 people, supported by dissemination through Transaid's network.

The application of standard project management tools, project scoping document, participative project planning, active risk identification and management, and a project steering group with senior management participation, which allowed for a robust quality assurance process and provided an appropriate forum through which to manage any challenges that may arise during implementation.

### **2.4 Foreseen outcomes and impact**

With the implementation of the knowledge retention project, ReCAP aimed to obtain the improved accessibility to rural transport knowledge for the global community of practitioners as an outcome. The ultimate impact of this improved access to knowledge can

be improved research capacity and evidence-based decision making, which ultimately benefits rural communities in developing countries through better transport connectivity. At the time of writing the outcomes and impact are yet to be developed. Monitoring mechanisms will be put in place to measure actual uptake of the outputs.

### **3. Mentoring**

ReCAP and its predecessor programmes funded by UKAid have been supporting research and development in the rural roads and transport sector for over 10 years, providing funding for research initiatives at national and regional levels. Some of this funding has been used to support the establishment of Road Research Centres (RRCs). However, developing and sustaining research capacity in each country remains a challenge. In addition, leadership within the sector is reliant on a few very senior professionals, many of whom are approaching retirement.

ReCAP's approach has been to integrate capacity building efforts for the local institution involved in each of its technical projects. Further to this and to the knowledge retention project described in previous paragraphs, to prevent the loss of knowledge and to build sustainable research capacity in rural roads and transport in ReCAP partner countries, ReCAP aimed to set up a mentoring programme specific to rural transport competencies that harnesses this knowledge and supports the next generation of researchers and leaders in the sector.

#### **3.1 Foreseen set up of the ReCAP mentoring programme**

Researchers clearly need to have a sound knowledge of their subject area, but in addition, basic research and management skills are also required to ensure that researchers in the various centres can identify, conceive and design appropriate research projects to solve their particular rural transport challenges as well as obtain funding to carry them out, execute them efficiently and effectively.

ReCAP has undertaken an initial scoping and design study that provided key information to inform and allow cost-effective guidance and research support to be designed and supplied for both new and existing Transport Research Centres (TRCs) through mentoring of local personnel by experienced researchers. Mentoring in this context is defined as “the long term passing on of support, guidance and advice” and specifically in a work place environment “[...]in which a more experienced colleague uses their greater knowledge and understanding of the work or workplace to support the development of a more junior or inexperienced member of staff.” (Chartered Institute of Personnel and Development, 2009). The scoping and design study is to lead and feed into follow-on ReCAP mentoring initiatives at a number of levels.

The mentoring will be focussed on the fundamental methodologies of research and its dissemination, and is seen as supporting and working in parallel with capacity building on the wide range of rural transport and transportation technical issues through other means. An initial informal scoping of the skills to be transferred through mentoring was done at the Inter-Regional Implementation Meeting organised by ReCAP in Kampala, Uganda, in November 2017. Figure 3 depicts the skills that participants to the capacity building workshop at the IRIM event wished to acquire through mentoring. Technical engineering and specific skills related to undertaking research were most sought after.

The mentoring programme is to be implemented by the ReCAP Technical Panel, and is to be piloted with research staff of the Uganda National Roads Authority (UNRA) over the course of 2018. The pilot will include an identification and assessment of needs and the trialling of various mentoring approaches

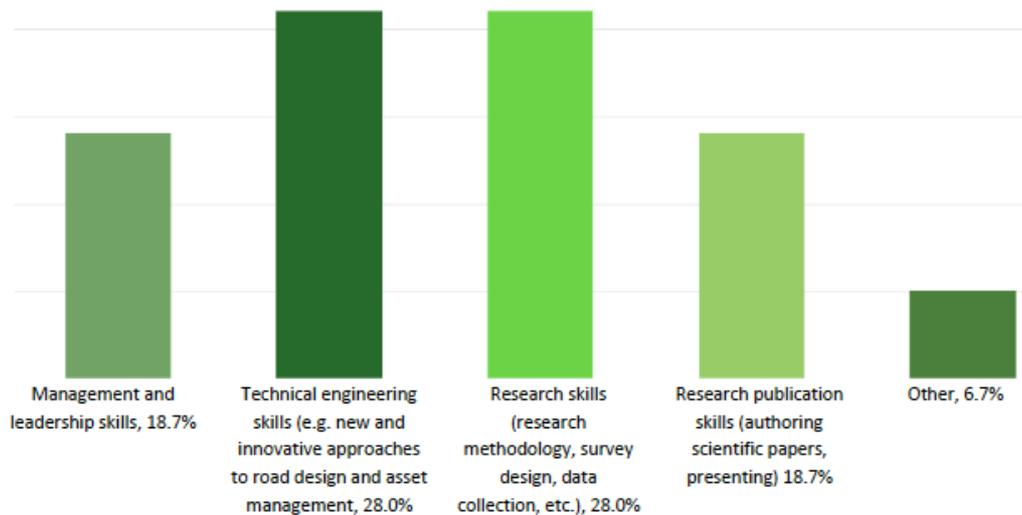


Figure 3 – Desired skills to be acquired through mentoring by participants to the capacity building workshop at IRIM 2017 (Visser, 2018)

### 3.2 Foreseen outcomes and impact

The aim of the mentoring programme as whole will be to train project staff on the essential components of research and to provide them with a bespoke toolbox of skills focussed on their particular need. The overall project purpose is to contribute to TRCs and their researchers achieving sustainable independence in research beyond the tenure of funding made available through the ReCAP programme.

## 4. Conclusions

Capacity building has been an integrated part of the research activities managed through the ReCAP Programme, in particular to enhance the sustainability of rural road research capacity in the local institutions in its partner countries. The pool of senior experts in rural transport already being relatively small, ReCAP is putting specific effort in the retention of their valuable knowledge and into setting up a mentoring programme using the senior experts to assist junior researchers of RRCs to build their capacity and skills in this particular field.

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