The Role of Knowledge Management in Ensuring that the Outcomes of Rural Transport Research are Effectively Applied in Practice

C Visser, Knowledge & Communications Manager, Research for Community Access Partnership (ReCAP), caroline.visser@cardno.com

Dr J R Cook, Chief Technical Adviser, Research for Community Access Partnership (ReCAP), jasper.cook@cardno.com

Abstract

It is accepted that rural road infrastructure and associated transport services are essential in providing the reliable, affordable and sustainable access to important services and markets for poor communities, hence under-pinning key UN Sustainable Development Goals (SDGs). Over the last three decades the UK Department For International Development (DFID), through UKaid, amongst other organisations, has supported significant advances in relevant applied research aimed at improving the effectiveness and sustainability of this infrastructure and transport services. However, important challenges remain as to the uptake and implementation of new research outcomes and the application of new knowledge in the rural transport sector. Although this is frequently blamed on the inherently conservative nature of infrastructure practitioners, the issue is more fundamental and is more likely due to a lack of focus on effective knowledge management. There is a growing appreciation of the need for digestible research evidence to be targeted at key policy and decision makers, in addition to being clearly presented for practical use. This dual approach then allows informed decisions to be made on high level policy and procedures that will then drive the application of the research at project level and local levels.

This paper outlines, with examples, the approach of the UKaid-funded Research for Community Access Partnership (ReCAP) in overcoming the challenges inherent in the application of research through more effective knowledge management.

1. The challenges of taking up and embedding rural transport research

1.1 Introduction

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 (DFID) 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:

- Democratic Republic of 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.

1.1 Key Principles

Over the last three decades, DFID, the World Bank, the Asian Development Bank (ADB) and other donors have supported research on various aspects of rural transport, specifically with the aim of reducing rural poverty and increasing the access to effective of transportation services for rural and peri-urban communities in Low Income Countries (LICs). Much of this targeted research has been particularly successful, resulting in innovative and unconventional approaches that can provide highly beneficial and cost-effective solutions for low volume road access in these counties through, for example, the use of alternative, sustainable, road surfacings [1, 2].

It is now accepted that undertaking high quality applied research in any field should no longer be considered adequate without ensuring the outcomes are taken up, used effectively, and embedded in accepted good practice, or as national policy. This is particularly relevant within the rural transport sector, where constrained budgets and a vulnerable sector environment demand that money spent on research is used to the maximum effect. This requires a clear focus on the uptake and embedment of the research beyond reporting and dissemination, defined as follows:

- Uptake: The use or application of the research evidence at a major project level by practitioners – for example by a World Bank or African Development Bank (AfDB) supported rural transport programme;
- Embedment: The formal inclusion of the research outcomes in government policy, or mandatory standards, specifications and manuals.

1.2 Challenges

However, resistance to the implementation of new techniques remains a major challenge to the transfer and application of new knowledge in the transport sector. This is partly due to the inherently conservative nature of the civil engineering profession and the normally lengthy path from research to full implementation, which typically requires a much longer length of time than the timescale of most donor-funded research initiatives [3, 4].

Historical experience from previous rural transport research projects has indicated the significant challenges in moving research forward into embedment [3, 5]. In summary these are:

1. Research projects may often be measured in months or a couple of years, whilst moving research into policy can, and frequently does, take several years.

2. The requirements for decision makers to be fully informed on research outputs in clear terms and for them to have confidence in this research.

3. Decision makers need to be made much more aware of the social, economic and financial benefits of applying research outputs.

4. Effective links between researchers and policy and decision makers are difficult to establish and nurture.

5. Research targets and outputs have not always been designed around specific rural transport need as defined by key stakeholders

6. Personnel in government departments often have relatively little control over where they are placed and are often transferred between departments at relatively short notice. When this happens, technical expertise, authority within the department, commitment to the project and policy towards research can change. In addition, considerable effort expended in developing relationships can be lost.

7. Responsibilities for roads and transport can fall within different ministries. For example, research on road infrastructure might fall within the responsibility of a Ministry of Works and research into transport services might fall under a Ministry of Transport or a Ministry of Rural Development. This means that local champions are needed in more than one Ministry.

8. There are few incentives for government stakeholders to effect change, especially if these are perceived to carry some risk. For example, unlike in the private sector, there is often little or no financial reward or increased career prospects from adopting innovation.

9. Researchers always appreciate that there is a degree of risk in research but it is unrealistic to expect contractors or consultants to adopt research outcomes on the basis of perceived risk without the protection of formal standards or specifications.

1.3 The role of knowledge management

Knowledge management, as the deliverer of knowledge, evidence and innovation, must have a clear target as regards the pathway to uptake and embedment of research outcomes. Traditionally, researchers have looked at moving their outputs forward in linear fashion through a series of linked stages, represented in Figure 1.
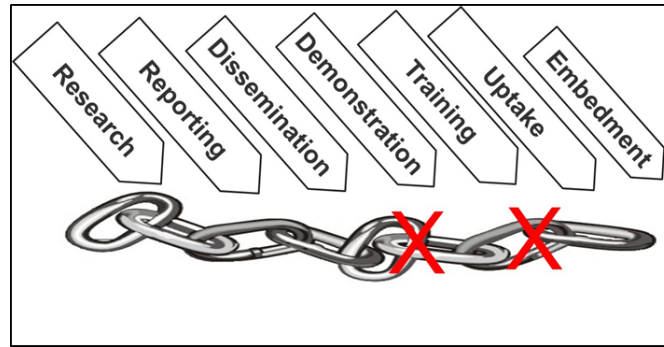
Figure 1 - The Research to Embedment Chain

Although this is an over-simplification of what is, in reality, a complex and often iterative process, it is worth considering as a starting point for understanding the role of knowledge management in achieving uptake and embedment. Table 1 provides an overview of the various links in the research process, the challenge emanating in the particular link and the role knowledge management can play in addressing the challenges.

Link	Activity	Challenges	Role of KM
Research	Within a framework of Terms of Reference and Quality Management. Compilation of the research findings, analysis and conclusions.	Focus required on quality management	KM processes used as a based for organizing, storing and managing research data in a logical and accessible format. This allows for early access by stakeholders and enhances transferability and replication of research.
Dissemination	The knowledge transfer or distribution of the research outcomes to identified stakeholders. Traditionally undertaken through workshops and distribution of hard copy reports, manuals, etc.	Dissemination to key actors from policy makers to local stakeholders.	Key KM processes into framework of reports, workshops etc. Needs focus on electronic media distribution and "translation" to non-researcher audience. KM role at this stage also in key message distribution.
Demonstration	The validation of the research outcomes through trials and monitoring. Commonly incorporated in projects	Significant question marks as to the ongoing monitoring of assumptions and outcomes.	KM input required in designing demonstrations and their output to suit the targeted potential stakeholders.
Training (Capacity Building)	Instruction or guidance to key stakeholders or operatives concerned with wider application of the research. In the past this activity has either been essentially an end-of-project action or short separate activity.	Requires more in-project focus.	KM key in assembling information sets relevant to levels of interest of target recipient groups, that may vary from department heads to site technicians.
Uptake	The use or application of the research evidence at a major project level by practitioners and/or policy makers.	Generally not well addressed as an integral part of research projects.	Through ensuring access to research outputs, KM promotes the development of links with MDB projects and facilitates the appropriate acquisition of data, guidance, etc. in a digestible form.

Embedment	The formal inclusion of the research outcomes in government policy, or mandatory standards, specifications and manuals.	Largely ignored as a research project activity. Significant timescale problems.	KM facilitates the translation of key research messages into language appropriate for incorporation into policy documents. KM promotes and ensures the correct research outcomes are accessible for use in policy briefs, formal manuals, guidelines etc.

Table 1 - Knowledge Management input into the research links

Figure 2 illustrates the concept that, in addition to, or in parallel with the linear chain, there are several dimensions, or layers, of influence that need to be impacted, to link into policy and decision making. Most transport research is initiated, reported and disseminated at the two outer layers, involving donors, development banks, non-governmental organisations as well as universities, road authorities and service providers and consultants. It is rare, for example, for dissemination workshops to include key players from ministries, legislature and ultimately policy and decision makers. Knowledge management has a key role to play in providing the information links into the policy maker target.
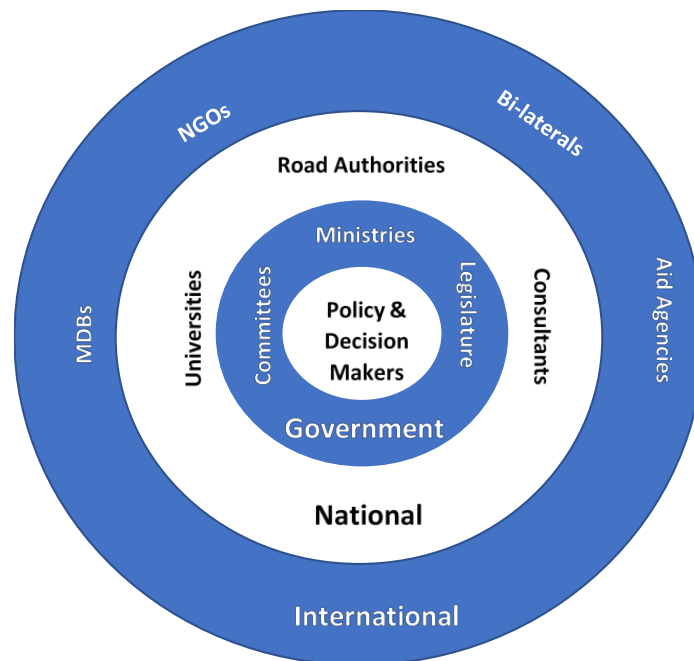

Figure 2 - Layers of Research Embedment [6]

2. The ReCAP knowledge management strategy and objectives

Based on the lessons referred to in Chapter 1, with the commencement of the Research for Community Access Partnership (ReCAP) in 2014, a knowledge management strategy [7] was developed, which was a first for rural access programmes funded by DFID till then. About 10% of the full ReCAP research budget of approximately 23 Million GBP is dedicated to knowledge management. The objectives for the ReCAP knowledge management activities are to strengthen the influence of the research on policy and practice, strengthen partner countries'

research capacity through better knowledge management and enhancing the interconnectedness of rural access practitioners internationally.

The knowledge management strategy focuses a number of action streams on three main target audiences:

1. Africa- and Asia-based rural road infrastructure and transport researchers and their institutions;
2. Africa and Asia-based transport and infrastructure decision makers at national, regional and local levels;
3. Partners and stakeholders (bi-lateral and multilateral organisations, non-governmental organisations, in other sectors such as agriculture, health, education, advocacy partners, etc.) at national and international levels.

Four complimentary strategic directions are guiding the implementation of the ReCAP programme to achieve its knowledge management objectives:

a. *Enhancing research uptake towards policy and practice*

Key decision makers have a role to play in establishing enabling policy frameworks that are important drivers in terms of putting funding in place for effective low volume road infrastructure, transport services and research. However, they are often not reached effectively with the appropriate evidence or messages to encourage and promote action. The ReCAP programme aims to inform policy makers and relevant stakeholders on research with evidence-based policy briefs about impacts and implications. The programme furthermore supports national partner institutions in establishing an informed policy dialogue to raise awareness locally and lay out road maps for further testing, piloting and adjusting or adopting the appropriate laws and regulations for wide scale implementation.

b. *Improve access to, and dissemination of, rural road and transport services research evidence*

A large amount of rural transport knowledge has been generated over the past 50 years, but is now not always easily retrievable. Furthermore, previous DFID research initiatives and community access programmes had generated knowledge that was at risk of being lost following their closure. The knowledge management strategy aimed to integrate these outputs as much as possible, as well as explore opportunities to enhance their free and open access. Access to knowledge also concerns the declining pool of very experienced rural road experts and the increasingly limited possibilities for local researchers to share their research experience and learn from their peers more widely.

Fostering an enabling environment for sharing and exchanging knowledge is at the core of the ReCAP programme. The programme supports researchers to publish their research in highly reputable scientific journals and to present outcomes at regional and global conferences and events as part of its strategy to disseminate research outputs as widely as possible.

Another key part of the strategy is to build and maintain a repository of existing knowledge that is easily accessible and searchable by rural transport practitioners and others. The Rural Access Library, available on the ReCAP website at www.research4cap.org, delivers that function.

Importantly, the strategy supports the dissemination of knowledge through the establishment of web-based learning and online courses on key topics in rural acces and rural transport services. It is also in the process of establishing a mentoring programme.

c. Support rural access networks and Communities of Practice

ReCAP has targeted relevant enabling formal and informal networks and communities of practice to facilitate low-threshold ways for exchanging experience. The networks contribute to embedding knowledge into mainstream research practice and can enrich research through discussion and interaction between peers.

The approach taken by the programme is to engage in substantive outreach to make more people aware of the rural access research that is undertaken, to enrich the exchange of views and experience and to stimulate peer-to-peer learning. ReCAP has its own community of practice of close to 2000 practitioners that are regularly informed with updates, alerts and electronic newsletters.

ReCAP has furthermore supported the establishment of a forum of African national road research centres with the aim of promoting research and innovation in roads and transport in Africa – the Africa Road and Transport Research Forum, ARTREF - and is now looking into supporting an initiative for West-African road authorities to join in a forum-type organisation.

Social media offer the opportunity for individual links between research practitioners, stakeholders, policy makers, etc. and the programme uses LinkedIn, Twitter and Facebook for both knowledge management and communications purposes.

d. Increase the influence of rural transport in multilateral development discourse

Transport did not have a dedicated place in the Millennium Development Goals (MDGs) and does not have one in the Sustainable Development Goals (SDGs) that were agreed by the international community in 2015. It is currently estimated that 1 billion people globally live further than two kilometres from an all-season road and by 2050, 34% of the global population of the estimated 9,8 billion people will live in rural areas.[1] It is, therefore, of vital importance that rural communities and their interest in safe and sustainable access are advocated for at the multilateral level.

ReCAP's approach is to influence the multilateral discourse on development and transport through feeding its results and research evidence into regional and global fora and taking an active role in these to ensure rural transport is getting, and remaining, on the agenda. ReCAP is taking a pro-active role within the World-Bank, UN promoted Sustainability for All (SuM4All) initiative[2]. ReCAP is actively ensuring that rural access maintains a high profile within Sum4All documents, publicity and discussions.

3. ReCAP knowledge management initiatives

This section provides an overview of initiatives undertaken in the realm of the strategic directions guiding ReCAP's knowledge management and the wider objective of long-term sustainability of ReCAP research towards uptake and

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[1] According to the United Nations World Population Prospects 2017, available at: https://population.un.org/wpp/, accessed on 13 March 2019.

[2] http://sum4all.org

embedment. It is clear that specific knowledge management initiatives need to be focussed towards specific audiences; a high quality scientific paper may have little impact on cross-sectorial decision makers, for example. Table 2 shows the key target audiences per initiative.

Target audience: Initiative:	Researchers	Decision makers	International partners & stakeholders
Publishing in renowned journals and at conferences	X		
Policy briefs and legacy documentation	X	X	X
Inter-regional exchange and policy involvement	X	X	
Knowledge retention, mentoring and distance learning	X		
Advocacy at international development discourse		X	X
Storing rural transport knowledge	X		X
Outreach & communications (including social media)	X		X

Table 2 – Overview of target audience addressed by knowledge management initiatives

3.1 Publication of research projects in renowned journals and at conferences

The ReCAP programme pursues an active policy of publishing its research outputs open access in renowned academic journals. A list of preferred journals has been established, but in principle any journal that has a relevant focus for the article to feature, has good impact (based on average citation counts from work published in the journal), has a solid peer review process to enhance objectiveness and supports open access publishing so as to enable wide dissemination of the research, would be suitable. Examples of published articles based on ReCAP research include:

- Hearn, G, et al (2018). Engineering geology of cinder gravel in Ethiopia: Prospecting, testing and application to low-volume roads. In: Bulletin of Engineering Geology and the Environment. Berlin, Heidelberg: Springer (permanent link: doi.org/10.1007/s10064-018-1333-3).
- Porter, R. et al (2016). Qualitative methods for investigating transport and mobility issues among commonly socially excluded populations: a case study of co-investigation with older people in rural Tanzania. In: Transport Research Procedia, volume 11. London/Amsterdam: Elsevier.

ReCAP also has a strategy of presenting its research at international and regional transport conferences that have a solid reputation and peer review process. Examples include the PIARC World Road Congress (organised every 4 years), the Transportation Research Board Low Volume Roads conference (organised every 4 years) and the bi-annual Transportation Technology Transfer conferences organised

by the Association of National Road Authorities of Southern Africa (ASANRA) in collaboration with a host member state. ReCAP also has the flexibility to seize ad hoc opportunities to present, for example at the International Association for Engineering Geology conference in 2018 or the Africa Climate Resilience Investment Summit in 2019.

3.2 Policy briefs and legacy documentation

The ReCAP programme prepares and disseminates high level briefs with the specific aim of highlighting the key recommendations emanating from the research and providing policy recommendations. The briefs are especially targeted at a non-engineering audience. Examples are a series of briefs on research ReCAP undertook looking into gender mainstreaming in rural transport in Africa and Asia. Other examples include briefs on using innovative technology for improved rural access and on the embedment of appropriate and sustainable low volume road designs and practice. The briefs are disseminated electronically and in hard copy at key events.

In order to leave a lasting legacy the ReCAP programme is furthermore funding the production of a Rural Road Note (RRN), addressing pavement design methods for low volume roads, one of the key themes in rural transport research that has been undertaken in ReCAP and predecessor programmes. Other RRNs topics have been identified and are under discussion; their function is to serve as a key reference and international state of the art and will be similar in style and aims as the highly successful DFID/ODA funded Overseas Road Note series.

3.3 Facilitating inter-regional exchange and policy involvement through annual Inter-Regional Implementation Meetings

In order to bring together the full ReCAP community of practice, from all ReCAP's African and Asia partner countries, around the three strategic research pillars (provision, preservation and sustainable use of rural access), the programme has organised two Inter-Regional Implementation Meetings (IRIMs).

The first edition of the ReCAP IRIM was held in Kampala, Uganda, in November 2017, with the support from the Uganda National Roads Authority (UNRA). The programme comprised plenary conference sessions on the strategic themes, which were complemented with dedicated, themed workshops. The audience existed mainly of delegates from partner countries (research and technical) institutions and service providers.

For the second edition, which was held in Kathmandu, Nepal, in February 2019, ReCAP reached out to transport policy makers and advisors in each of its partner countries, so as to broaden the audience and involve stakeholders whose action is needed for uptake and embedment. The theme of the event was equally adapted to stress the importance of uptake and embedment of ReCAP research in national policies, specifications and standards. A number of multilateral development banks and donors were present as well. These were actively targeted as potential users of ReCAP research and facilitators of uptake and eventual embedment.

A final ReCAP inter-regional meeting will be organised in April 2020.

3.3 Knowledge retention, mentoring and online learning

Knowledge retention

Since the beginning of ReCAP in 2014, it was noted 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. 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. ReCAP 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, independently of their actual involvement in the ReCAP programme, or any other transport related programme for that matter.

The purpose of this knowledge retention project 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 global community of practitioners in 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. 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'. This was to be complemented with (a selection of) explicit knowledge that they authored or contributed to.

At the time of writing, the knowledge retention project is approaching completion and the outputs will come available in April 2019 on the ReCAP website for wide dissemination. These will include a series of themed videos with contributions of the various experts, structured along the key pillars for ReCAP research, i.e. access provision, access preservation and sustainable use of access (transport). Furthermore, expert profiles have been compiled, as well as knowledge maps, addressing key literature, perceived lessons and gaps.

Mentoring

In parallel with the knowledge retention work senior experts within the RECAP Technical Panel have initiated a mentoring scoping study. This study will seek to lay out key principles and a model framework for undertaking mentoring on research methods. Researchers clearly need to have a sound knowledge of their subject area, but in addition, basic research and management skills are also required. These are necessary to ensure that researchers identify, conceive and design appropriate research projects to solve their particular rural transport challenges as well being able to seek funding to carry them out and, 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 is 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." [8]. The scoping and design study is to lead and feed into follow-on ReCAP mentoring initiatives at a number of levels. These efforts tie in with a broader

approach to mentoring, capacity building, leadership development and technical support. For example, ReCAP supports the mentoring of staff of the Myanmar Department of Rural Road Development (DRRD) within the Ministry of Construction by the South African Council for Scientific and Industrial Research (CSIR) through a dedicated project.

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.

Distance learning

Most recently, efforts have gone into the scoping of distance learning options, including a Massive Online Open Course (MOOC) or series thereof, covering the following aspects: target audience and user needs; topic(s), narrative and structure, delivery format and platform, certification/accreditation, costs and development timescale. The main objective of the scoping study was to explore various options for distance learning and building a virtual community of practice, and propose practical recommendations for the ReCAP programme.

Some preliminary conclusions [9] from the scoping are:

- Due to the specialized rural transport content in ReCAP and its relatively small audience, an online learning solution that addresses smaller course sizes would be the most practical and effective method of sharing knowledge and building capacity in ReCAP's target audience;

- Mobile learning would extend the reach of any online learning platform given the prevalence of smartphones in partner nations.

- Certification is a key factor in the target audience's decision to participate, and local standards, incentives and administration vary considerably across ReCAP partner countries – and are subject to governmental approval. Therefore, te study recommends adopting an "Open content model" may be most effective, where shared Open Educational Resources (OERs) could be used and re-purposed depending upon need.

The final outcome of the project, expected in April 2019, will be an Implementation plan for distance learning, i.e. a "turnkey" document ready to send out for tender. Possible bidders include universities and e-learning companies.

3.4 Research evidence feeding into the international development discourse

The ReCAP programme has become increasingly effective in the agenda of high-level, multilateral development debates to include rural transport and access. Through strategic partnerships, for example with the Partnership for Sustainable Low Carbon Transport (SLoCaT), ReCAP has been able to have rural transport feature prominently on the agendas of a number of global and regional platforms.

The advocacy campaign centres on five key messages:

1. Improved rural transport drives sustainable rural development and national growth

2. Better rural transport is key for food security and zero hunger
3. Poor rural transport condemns the poor to stay disconnected and poor
4. Additional money and commitment is needed to build and maintain rural road networks and develop sustainable rural transport services
5. Better rural transport calls for local solutions for local challenges

The key messages were identified through an extensive stakeholder survey [10]. Various materials were developed to promote the key messages, such as fact sheets, banners and position papers, which underpinned their message with relevant research evidence.

Through its campaigns and partnerships, ReCAP has been successful in addressing rural transport at the annual Environmentally Sustainable Transport (EST) Forum for Asia, organised by the UN Centre for Regional Development (UNCRD). From a presentation during the 2015 edition, through a dedicated side event at the 2017 edition, during which the EST Member States adopted the Vientiane Declaration on Sustainable Rural Transport towards Achieving the 2030 Agenda for Sustainable Development, to continued involvement in the 2018 edition. Efforts are now focusing on addressing rural transport in the successor to the Bangkok Declaration of 2010; the new Declaration is to cover the period of 2020-2030 and will govern the priorities of the EST Member States during that era.

As noted previously, ReCAP plays a prominent role in the Sustainable Mobility for All (SuM4All) initiative championed by the Word Bank and backed by over 50 leading organizations in the transport and mobility space, including regional development banks. ReCAP plays a crucial role in the rural sector through membership of the SuM4All Steering Committee and being Joint Lead (with DFID) of the Rural Access Working Group. Sum4All gives ReCAP research a framework, a driver and a forum for uptake leading to embedment at the highest levels, whilst SuM4All gets access to research-based evidence linked to the Catalogue of Measures that was prepared in the framework of the Global Roadmap for Action (GRA); facilitating travel along the road map to sustainable mobility leaving no-one behind.

The GRA that aims to lay out a pathway for planners, public decision-makers and the private sector to follow, in order to further the world's progress toward sustainable mobility through five key pillars: Universal Access (including Rural Access); Safety; Efficiency; Gender and Green Mobility. It builds on the findings of the Global Mobility Report (GMR) 2017 and the Transport Data Portal previously produced under the SuM4All umbrella.

3.5 Storing rural transport knowledge

Central to the ReCAP knowledge management strategy is the storing of research outputs of the programme, and other relevant materials, in a freely accessible digital repository. The ReCAP Rural Access Library (RAL), hosted on www.research4cap.org, has been in operation since the start of the programme and currently holds close to 1250 knowledge items. The Library contains outputs of predecessor programmes funded by DFID, such as the Africa Community Access Partnership (AFCAP) Phase I (2008-2014) and the South East Asia Community Access Partnership (SEACAP) (2004-2009), and includes the newly produced

knowledge under the ReCAP programme and is continually being updated with the latest outputs.

The RAL is complying with international repository standards, including for meta data, and is registered with the Directory for Open Access Repositories (DOAR). It serves as a key international reference for researchers, government departments and road and transport research centres in developing economies. It is currently formally linked with a number of the national partner institutions that ReCAP works with, as well as international associations and non-governmental organisations.

4. Conclusions

Based on lessons learnt from previous rural access focused research programmes funded by DFID, the ReCAP programme has established a firm knowledge management track record, focusing strategically not only on the execution of high quality applied research, but on disseminating and preparing for uptake and embedment of research outputs by relevant stakeholders at national and international levels. The programme has put in place a number of initiatives supporting these efforts, as illustrated in this paper.

It is clear that for ReCAP's ambitions for uptake and embedment, time and long terms sustainability are of key importance. The ReCAP programme is due to finish in July 2020 and efforts are on-going to establish long-term stewardship for the ReCAP legacy.

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