



ReCAP
Research for Community Access Partnership



Status Review of the Updated Rural Access Index (RAI)

Inception Report



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The views in this document are those of the authors and they do not necessarily reflect the views of the Research for Community Access Partnership (ReCAP), or Cardno Emerging Markets (UK) Ltd for whom the document was prepared

Cover Photo: Children at a rural school in Ghana

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Abstract

The ReCAP RAI Status Review is reviewing progress with the development and implementation of an updated method of measuring the Rural Access Index (RAI) using spatial analysis techniques. The RAI was defined in 2005 as the proportion of the rural population living with 2 km of an all-season road. The RAI was calculated in 2006 for 64 countries, using several different methods, with the intention that this data would then be updated regularly using household survey data. These updates never took place. In 2016, SDG Indicator 9.1.1 was agreed with the same definition as the RAI, requiring regular update of RAI data for the majority of UN countries. With support from ReCAP, the World Bank developed updated spatial analysis techniques to measure RAI, and trials were carried out in eight ReCAP countries. However, concerns were raised about inconsistencies across countries, possible weak operational relevance, weak client ownership by pilot countries, and potential high future update costs. This status review is intended to address these concerns, with a view to accelerating progress with the updated measurement of the RAI. The status review includes consultation with the World Bank, regional development banks, and ReCAP member countries.

Key words

RAI, Rural access, SDG Indicator, status review

RESEARCH FOR COMMUNITY ACCESS PARTNERSHIP (ReCAP)

Safe and sustainable transport for rural communities

ReCAP is a research programme, funded by UK Aid, with the aim of promoting safe and sustainable transport for rural communities in Africa and Asia. ReCAP comprises the Africa Community Access Partnership (AfCAP) and the Asia Community Access Partnership (AsCAP). These partnerships support 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. The ReCAP programme is managed by Cardno Emerging Markets (UK) Ltd.

See www.research4cap.org

Acronyms, Units and Currencies

\$	United States Dollar (US\$ 1.00 ≈ provide conversion to local currencies)
ADB	Asian Development Bank
AFCAP	Africa Community Access Partnership
AFDB	African Development Bank
ASCAP	Asia Community Access Partnership
CDS	Civil Design Solutions
DEC	World Bank Development Economics Vice Presidency
GPS	Global positioning system
IAEG-SDGs	UN Inter-agency and Expert Group on SDG Indicators
IDB	Inter-American Development Bank
LSMS	Living Standards Measurement Study
PI	CDS Principal Investigator
PMU	Programme Management Unit
RAI	Rural Access Index
RECAP	Research for Community Access Partnership
SDGs	Sustainable Development Goals
SRAI	The RAI calculated by the 2016 'Spatial Rural Access Index' method
UK	United Kingdom (of Great Britain and Northern Ireland)
UKAid	United Kingdom Aid (Department for International Development, UK)
UN	United Nations

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1 Introduction

The Research for Community Access Partnership (ReCAP) is a programme of research and knowledge dissemination funded by the UK government through the Department for International Development (DFID). The aim of ReCAP (2014-2020) is to build on previous programmes of high quality research and take this forward to a sustainable future in which the results of the research are adopted in practice and influence future policy. The key stated outputs include the generation, validation and updating of evidence for effective policies and practices to achieve all-season, climate resilient, equitable and affordable rural transport.

As part of this initiative, ReCAP is supporting a Status Review of the Rural Access Index. The review is being carried out by Civil Design Solutions (CDS), with project work starting in January 2018. The Final Report is expected to be delivered by May 2018.

The ReCAP RAI Status Review includes consultation with the World Bank in Washington DC, with the African Development Bank in Abidjan, with the Asian Development Bank in Manila, and with four ReCAP member countries, Ethiopia, Uganda, Nepal, and Bangladesh. A desk study of relevant existing reports, and wider consultation by e-mail, will take place. The Status Review is intended to address concerns that have arisen with the implementation of the RAI, with a view to accelerating progress with application and regular measurement of the RAI in a larger number of countries.

2 Background

The Rural Access Index (RAI) is defined as 'the proportion of the rural population living within two kilometres of an all-season road'. It was adopted as a development indicator for the Results Measurement System for IDA 14 (the 14th replenishment of International Development Association resources) in 2005. Two kilometres was selected as 'typically equivalent to a walk of 20-25 minutes'.

Initial measurements of the RAI (obtained by several methods) for 64 countries were included in the World Bank Report 'Rural Access Index: A Key Development Indicator' (2006), prepared by Peter Roberts, Shyam KC, and Cordula Rastogi.

In 2006 it was intended that the RAI would be updated every few years by including a suitable question in regular household surveys, for example the Living Standards Measurement Study (LSMS). By this method, it was originally estimated that it would only take one day of statistical analysis of the household survey data to update the national RAI value.

The original definition in 2005 included an alternative methodology of overlaying the all-season rural road map over a map of the rural population distribution. Some of the original 2006 measurements were carried out by this methodology using GIS. Some of the 2006 measurements were also made using less reliable approximate modelling techniques.

Although the RAI has been widely used in studies and projects, the original 2006 data has not been systematically updated, as was originally intended.

Following the establishment of the UN Sustainable Development Goals (SDGs) in September 2015, a set of 230 SDG Indicators were defined by the UN Inter-agency and Expert Group on SDG Indicators (IAEG-SDGs) in June 2016.

SDG Indicator 9.1.1 'Proportion of the rural population who live within 2 km of an all-season road' is the same as the RAI.

The World Bank, as the 'custodian' of SDG Indicator 9.1.1, started a research programme to develop a new methodology for measuring the RAI.¹ Pilot measurements of the RAI using this new methodology were carried out in eight ReCAP countries in Africa and Asia with financial support from ReCAP. The pilot countries were Ethiopia, Kenya, Uganda, Tanzania, Mozambique, Zambia, Nepal and Bangladesh. The results of these pilot measurements for the new RAI measurement method were published in the ReCAP/World Bank report 'Measuring Rural Access: Using new technologies' (World Bank, 2016).

The World Bank prepared a proposal for more widespread use of the new RAI measurement methodology. However, concerns were raised about inconsistencies across countries, possible weak operational relevance, weak client ownership by pilot countries, and potential high future update costs.

As an SDG Indicator, the RAI urgently needs to be measured for as many UN countries as possible, and a mechanism needs to be established through which regular future updates will take place. The UN Inter-agency and Expert Group on SDG Indicators (IAEG-SDGs) has established a 'tier' system of classifying SDG Indicators. The RAI is currently on the lowest tier, Tier III, alongside other indicators which do not yet have an established methodology. To progress to Tier II, an updated methodology must be finalised, and it must be possible to demonstrate that systems are in place to collect and update RAI data in the future for a significant number of countries. To progress to Tier I, RAI data must be measured regularly for at least 50% of UN countries.

ReCAP has defined three task groups to move development and use of the RAI forward:

- Task Group 1 (TG1): A status review and way forward recommendation
- Task Group 2 (TG2): Consolidation and Revision
- Task Group 3 (TG3): Application in Pilot Countries

This project is Task Group 1.

3 Approach and Methodology

The overall objectives and method of the status review are unchanged from the CDS Technical Offer of 13 November 2017. These are as follows:

- **Desk review and questions to address:** Following the Inception Phase, a desk review of known documents relating to RAI is taking place. A list of documents initially identified is included in Annex A. As part of this desk review, a list of questions that the status review is expected to address has been prepared, and is included in Annex B. A brief description of the status review has also been prepared, as an introduction that can be used for discussions. This is included in Annex C.
- **Visit to the World Bank:** The visit to the World Bank in Washington DC includes meeting the team developing the new measurement method for the RAI, learning more about the interaction between the World Bank Development Economics Vice Presidency (DEC) and the UN Inter-agency and Expert Group on SDG Indicators (IAEG-SDGs), and also meeting World

¹ The RAI calculated by this method is sometimes referred to as the 'Spatial Rural Access Index' (SRAI).

Bank staff with an interest in rural development or who might be involved in the collection or use of rural access data. Simon Ellis, Lead Transport Specialist at The World Bank, has assisted with arranging this status review and organising meetings at the World Bank.

- **Interim Progress Statement:** Following the visit to World Bank, the Interim Progress Statement will be prepared. This will include outline proposals for ReCAP RAI TG2 'Consolidation and Revision'.
- **Region Development Banks:** Consultation will take place with staff at the African Development Bank (AfDB) in Abidjan, and with staff at the Asian Development Bank (ADB) in Manila. It is anticipated that consultation with staff of the Inter-American Bank (IDB) may also be possible during the visit to World Bank in Washington DC.
- **Country level consultation:** Country level support will be essential for the widespread acceptance and use of the RAI that is intended in the future. Short visits will therefore take place to pilot countries Ethiopia, Uganda, Nepal and Bangladesh. In each country, it is planned to meet both potential source data gatherers/providers, and potential RAI users.
- **Wider consultation with interested parties:** Wider consultation is planned with parties interested in RAI. It is currently anticipated that an e-mail request for comments, which will include a summary of progress at Interim Progress Statement stage, will be circulated to relevant e-mail distribution lists.
- **Draft Final Report:** This will include detailed recommendations for ReCAP RAI TG2 'Consolidation and Revision', and recommendations on core activities for TG3 'Application in Pilot Countries'.
- **Final Report:** Written review comments on the Draft Final Report will be requested from ReCAP, DFID and World Bank, following which the Final Report will be prepared.

4 Inception Phase

4.1 Inception Meeting

The schedule of tasks presented in the CDS revised Technical Offer of 13 November 2017 anticipated that the assignment would start in January 2018. However, it was agreed with ReCAP management that it would be beneficial to hold the Inception Meeting in December 2017 when all members of ReCAP Programme Management Unit (PMU) associated with this status review, and the CDS Principal Investigator (PI), were able to meet in London. The Inception Meeting with ReCAP PMU took place in London on 12 December 2017.

At the Inception Meeting, the ReCAP PMU provided background information covering: the development of the GIS based method of updating the Rural Access Index; the support already provided by ReCAP to this development; the parties involved in this development; and expectations from this status review. The Principal Investigator presented the planned methodology for the study. Some discussion took place about sources of information and people to be included in consultations.

Specific points arising from the Inception Meeting were:

- An independent review is needed to determine the best way forward.
- Further development of measurement of the RAI needs to be progressed as soon as possible.

- The CDS methodology was appropriate for this status review.

4.2 Other Activities Carried out in the Inception Phase

The following additional activities were carried out during the Inception Phase:

- **Support to ReCAP discussions:** Simultaneously with the Inception Phase, discussions about the RAI, and particularly the use of the RAI as Sustainable Development Goals (SDG) Indicator 9.1.1, were taking place between ReCAP PMU, DFID and the World Bank. The PI provided some support to these discussions through Skype meetings with ReCAP PMU and e-mail exchanges.
- **Preliminary research:** Originally, it had not been planned to carry out significant desk study research during the inception phase. However, to support discussions and meetings, some initial desk study research was carried out.
- **Meetings with practitioners:** To achieve a better understanding of a number of issues as early as possible, and also to provide additional background to support discussions that were taking place, some meetings with rural transport and technical specialists also took place during the inception phase. Further details of all meetings are included in Annex D.
- **Meeting with DFID:** The PI held a meeting with Elizabeth Jones, the principal DFID contact for ReCAP, on 17 January 2018 to assist in understanding DFID expectations for the study. Brief notes from this meeting are included in Annex D.

5 Revised workplan

5.1 Task schedule

The full list of project tasks and sub-tasks is included in Annex E. This list is the same as that included in the revised CDS Technical Offer of 13 November 2017.

The updated timing of the project tasks is shown in Annex F. The visit to Washington DC was delayed by one week to allow time for the PI to obtain a USA visa. This, in turn, will result in a delay of one week in the preparation of the Interim Progress Statement, compared to the revised CDS Technical Offer.

The visits to Africa and Asia are delayed by one week to avoid public holidays during the country visits, delaying the Draft Final Report by one week.

5.2 Milestones and deliverables

Updated project milestones and deliverables are shown in Table 5.1.

Table 5.1: Milestones and Deliverables

	Milestone	Date	Deliverable
1	Completion of inception reporting phase	23 Jan 2018	Inception Report
2	Preparation of Interim Progress Report	26 Feb 2018	Interim Progress Statement
3	Preparation of Draft Final Report	09 Apr 2019	Draft Final Report
4	Finalisation of Final Report	07 May 2018	Final Report

5.3 Travel schedule

The planned travel schedule for the Principal Investigator is shown in Table 5.2. The CDS Project Director will participate in the Africa portion of the trip.

The schedule of travel through Africa and Asia has been designed to allow at least two full working days in each country, and also to suit scheduled flights available between countries.

Table 5.2: Planned travel schedule

City & Country	Arrival	Departure
Washington DC, USA	Sat 10 Feb 2018	Sat 17 Feb 2018
Abidjan, Cote d'Ivoire	Sat 03 Mar 2018	Sat 10 Mar 2018
Addis Ababa, Ethiopia	Sat 10 Mar 2018	Wed 14 Mar 2018
Kampala, Uganda	Wed 14 Mar 2018	Fri 16 Mar 2018
Kathmandu, Nepal	Sat 17 Mar 2018	Tue 20 Mar 2018
Dhaka, Bangladesh	Tue 20 Mar 2018	Fri 23 Mar 2018
Manila, Philippines	Sat 24 Mar 2018	Sat 31 Mar 2018

6 Management of the Project

This sub-contract is managed by the ReCAP Project Management Unit (PMU), as part of the UKAid funded Research for Community Access Partnership (ReCAP), which is managed by Cardno Emerging Markets (UK) Ltd. Civil Design Solutions (CDS) is the sub-contractor to ReCAP for the RAI status review.

The CDS team for this project is:

Robert Geddes – Project Director and Technical Reviewer
Stephen Vincent – Principal Investigator (PI)
Hamish Goldie-Scott – Technical Reviewer.

It is noted that additional staff resources than originally planned have been used during the inception phase, as explained in Section 5. Nevertheless, CDS will endeavour to complete this status review within the total resources originally allocated. If significant additional work should be required beyond the overall scope originally planned, CDS will inform ReCAP PMU immediately in order to agree priorities for the resources available.

7 Risks and Mitigation Measures

A list of risks that have been identified, and associated proposed mitigation, is included in Annex G. Risk number (8), regarding delays in the issue of visas, has been added to the initial list of risks included in CDS revised Technical Offer of 13 November 2017.

This list of risks and mitigation measures will be reviewed during each CDS internal quality review.

8 Next Steps

The next steps for the assignment are as follows:

- **RAI Working Group:** Following the meeting about RAI held at the World Bank on 08 January 2018, an RAI Working Group is being established by ReCAP PMU. The TG1 status review project will provide support and assistance to the activities of the RAI Working Group. The Working Group is scheduled to meet on 1 March 2018.
- **Visit to World Bank and Interim Progress Statement:** Following the visit to the World Bank in Washington DC, the Interim Progress Statement will be prepared, providing a summary of initial investigations, and summarising key recommendations to date for the way forward with TG2, Consolidation and Revision.
- **AfDB and ADB, and country visits:** ReCAP PMU has provided contacts for each of the pilot countries. These contacts are assisting with arranging visas and organising appropriate meetings. AfDB and ADB are also assisting with organising appropriate meetings in Abidjan and Manila.
- **Wider consultation:** A wider consultation will take place by e-mail in parallel with the visits to Africa and Asia. Assistance from ReCAP/DFID/World Bank may be needed to utilise existing e-mail circulation lists of rural development specialists, government officials, and NGOs.
- **Final Report:** After the Draft Final Report is prepared, a period of two weeks has been allowed for review inputs before making any revisions needed for the Final Report. At this final stage, it will be essential that any review comments are provided in written form.

Annex A: Documents to be reviewed

Documents already identified for the desk review

‘Rural Access Index: A Key Development Indicator’ (2006), World Bank
Peter Roberts, Shyam KC, Cordula Rastogi.

‘Measuring Rural Access’ (2016), World Bank/ReCAP
Atsushi Iimi and team

Papers prepared by the UN Inter-agency and Expert Group on SDG Indicators (IAEG-SDGs)
(which include details of SDG Indicator tier classifications and the 2020/2025 review process)

‘AfCAP Guideline on the use of high tech solutions for road network inventory and condition analysis
in Africa’ (2017), TRL

‘Agenda 2063, The Africa we want’ (2015), African Union Commission

Papers from the Africa Infrastructure Country Diagnostic study (AICD) (approx 2008-2010)

‘Improving Rural Mobility: Options for Developing Motorized and Nonmotorized Transport in Rural
Areas’ (2002), World Bank, Paul Starkey, Simon Ellis, John Hine, Anna Ternell

Recent papers that include details of motorcycle use for rural access.

Minutes of ReCAP meetings during which RAI has been discussed.

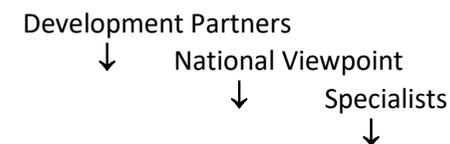
Annex B: Questions to be addressed

ReCAP Status Review of the Updated Rural Access Index (RAI)

Questions to be addressed

Draft at 08 February 2018

Likely source of information:



1. Definition of RAI

1(a) Does the 2005 definition of RAI truly reflect rural access today?

- Has the understanding of what 'rural access' means changed since 2005?
- Is 'rural people/population' sufficiently well defined?
- Is a fixed 2 km distance still appropriate?
- Is the meaning of 'all-season' widely understood?
- Is the 'prevailing means or rural transport' understood, and used?
- Does the extensive use of motorcycles in some countries affect the definition of RAI?

DevPartner National Specialist

1(b) Should the availability of transport services also be considered (as suggested in 2005/2006)?

- Does the road network truly reflect the availability of rural transport services (as intended)?

DevPartner National Specialist

1(c) Is there any reason to consider modifying the definition of RAI?

- Does anyone wish to change the definition of RAI, and if so why?
- Is refinement needed to improve the clarity of the wording of the definition?
- Is there any technical reason why any change is needed?

DevPartner National Specialist

2. Application of RAI as SDG Indicator 9.1.1

2(a) Is there a possibility that SDG Indicator 9.1.1 could be deleted in the 2020 or 2025 UN reviews?

- Who has suggested that Indicator 9.1.1 might be deleted?
- What reason for deletion has been put forward?
- Is there any record of negative discussion by IAEG-SDGs about Indicator 9.1.1?
(IAEG-SDGs = UN Inter-agency and Expert Group on SDG Indicators)

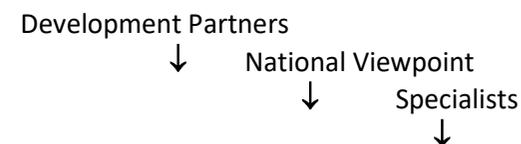
DevPartner

ReCAP Status Review of the Updated Rural Access Index (RAI)

Questions to be addressed

Draft at 08 February 2018

Likely source of information:



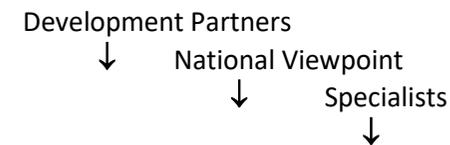
<p>2(b) How can 9.1.1 (as RAI) be moved from SDG Indicator Tier III to Tier II and eventually Tier I? (Tier III concept approval; Tier II around 40 countries; Tier I over 50% of countries) -How can measurement of RAI be rapidly extended to many more countries? -How can measurement of RAI be institutionalised to achieve regular updates? -Can measurements for developed countries increase the number of countries?</p>	<p>DevPartner</p>
<p>2(c) Does Indicator 9.1.1 need to match the definition of RAI exactly? -Could Indicator 9.1.1 be worded to include alternative measurement methods? (For example, 9.1.1 in terms of transport service, RAI as an approved method to measure → Could allow country level measurement alternatives, and support innovation)</p>	<p>DevPartner</p>
<p>3. Sources of data for RAI</p>	
<p>3(a) Household survey data -Why was the intended household survey method not institutionalised? -What household survey measurements have taken place since the 2006 report? -Is suitable data still being collected in some national household surveys? -Would it be worthwhile to implement the household survey method as originally intended? -How accurate are household survey measurements?</p>	<p>DevPartner</p>
<p>3(b) Population data -What population datasets exist? -How accurate is the population data available?</p>	<p>DevPartner</p>
<p>3(c) National road network data -What proportion of developing countries already have accurate mapping of rural roads? -How accurate are road network data sets, and how can accuracy be assessed? -What impact do errors in the road network have on measurement of RAI? -What difference is there likely to be between the 'all-season' and 'good/fair' road network?</p>	<p>DevPartner National Specialist</p>

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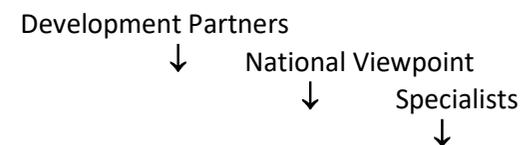
<p>3(d) Application of new technologies</p> <ul style="list-style-type: none"> -What new technologies can assist in determining the all-season road network? -What accuracies can be achieved by different new technologies? -What case studies are available to support the use of specific new technologies? 	<p>DevPartner National Specialist</p>
<p>3(e) Availability of the input data needed</p> <ul style="list-style-type: none"> -What obstacles exist to making the input data needed available? 	<p>DevPartner National Specialist</p>
<p>4. Calculation of RAI</p>	
<p>4(a) Accuracy of calculation</p> <ul style="list-style-type: none"> -Should all RAI calculations include an assessment of the likely accuracy of the results? 	<p>DevPartner National Specialist</p>
<p>4(b) Quality assessments</p> <ul style="list-style-type: none"> -What quality management is included in the procedures to measure RAI? -Should all RAI data sets include a quality rating indicating likely overall accuracy? 	<p>DevPartner National Specialist</p>
<p>4(c) Differences between 2006 measurements and new measurements</p> <ul style="list-style-type: none"> -What analysis exists to explain the differences between the 2006 and recent measurements? 	<p>DevPartner National Specialist</p>
<p>4(d) What computer and data facilities are needed to calculate RAI?</p> <ul style="list-style-type: none"> -What facilities are needed for the household survey method? -What facilities, including software, are needed for GIS based methods? -Are the facilities needed available in most developing countries? 	<p>DevPartner National Specialist</p>
<p>4(e) Skill requirements</p> <ul style="list-style-type: none"> -What skills are needed to collect data, calculate RAI, and make practical use of results? -Are these skills available at national level? 	<p>DevPartner National Specialist</p>

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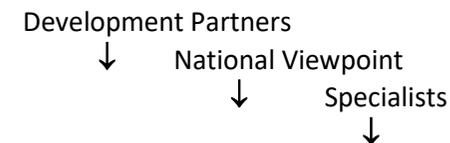
<p>4(f) Alternative methods of calculating RAI -Should countries be able to propose alternative methods to calculate RAI? -If alternative calculation methods are proposed, who should verify them?</p>	<p>DevPartner National Specialist</p>
<p>5. Management of RAI data</p> <p>5(a) What RAI data already exists, and where is it stored? -Who currently holds what RAI data?</p>	<p>DevPartner National Specialist</p>
<p>5(b) International register of known RAI data -What registers already exist of known RAI data? -Is a coordinating register needed, and if so who would maintain it?</p>	<p>DevPartner Specialist</p>
<p>5(c) Data management facilities -What data management facilities are needed in each country? -What data management facilities should exist internationally?</p>	<p>DevPartner National Specialist</p>
<p>5(d) Standardisation -What standardisation is possible with datasets held for other uses?</p>	
<p>6. Institutionalisation of RAI update</p> <p>6(a) Existing systems for regular update of RAI -Is most RAI data normally only updated when required by development partner projects?</p>	<p>DevPartner National Specialist</p>
<p>6(b) Update of RAI data -Should development partners be responsible for monitoring RAI updates? -Should each country take responsibility for updating its own RAI data?</p>	<p>DevPartner National Specialist</p>

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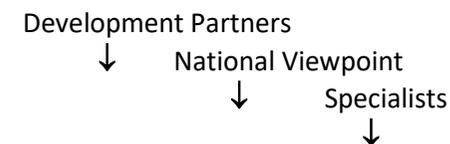
<p>6(c) Further action needed -What action is needed to institutionalise the update of RAI?</p>	<p>DevPartner National Specialist</p>
<p>7. Use of RAI data</p>	
<p>7(a) Comparison between countries -Does RAI provide an accurate, and useful comparison between countries?</p>	<p>DevPartner National Specialist</p>
<p>7(b) Time series data -Does RAI provide useful time-series data?</p>	<p>DevPartner National Specialist</p>
<p>7(c) Perception of how useful RAI is -Is RAI perceived to be important by education specialists? -Is RAI perceived to be important by health specialists? -Is RAI perceived to be important by transport specialists? -Is RAI perceived to be important by planners? -Is RAI perceived to be important by economists? -Is RAI perceived to be important for selling rural produce? -Is RAI perceived to be important for employment opportunities? -Is RAI perceived to be important by rural development specialists?</p>	<p>DevPartner National Specialist</p>
<p>7(d) National/Regional/Local/Project planning -How extensively is RAI used for planning by national governments? -How extensively is RAI used for planning at regional and local level? -How is RAI data used in planning activities?</p>	<p>DevPartner National Specialist</p>

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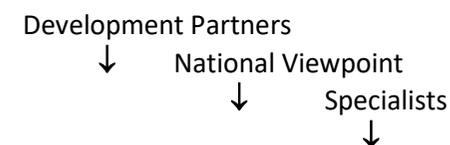
<p>7(e) Governance/politics -Is RAI useful for monitoring the performance of governments? -Is RAI useful for civil society?</p> <p>7(f) Possibility of misuse of RAI data -Is there any potential to misuse RAI data, for example to justify inappropriate projects?</p>	<p>DevPartner National Specialist</p> <p>DevPartner National Specialist</p>
<p>8. Financing of RAI</p> <p>8(a) Source data -How should the collection of source data be financed?</p> <p>8(b) Processing of source data to calculate RAI -How should processing of source data to calculate RAI be financed?</p> <p>8(c) Data storage -How should long term data management be financed?</p>	<p>DevPartner National Specialist</p> <p>DevPartner National Specialist</p> <p>DevPartner National Specialist</p>
<p>9. Country level consultation</p> <p>9(a) What consultation about RAI development has already taken place with individual countries?</p>	<p>DevPartner National Specialist</p>
<p>10. Interaction between RAI and other initiatives</p> <p>10(a) What interaction is needed with SuM4All?</p> <p>10(b) What interaction is needed with the revised HDM-4?</p> <p>10(c) What interaction is needed with the High-Tech Solution project?</p> <p>10(d) What interaction is needed with any other initiatives?</p>	<p>DevPartner</p> <p>DevPartner Specialist</p> <p>Specialist</p> <p>DevPartner National Specialist</p>

ReCAP Status Review of the Updated Rural Access Index (RAI)

Questions to be addressed

Draft at 08 February 2018

Likely source of information:



11. Action needed

11(a) Detailed recommendations on the way forward for ReCAP RAI TG2

11(b) Recommendations on core activities for ReCAP RAI TG3

Note: *This list of questions is to assist in guiding the investigations of the ReCAP RAI Status Review, but it may not be possible to answer all of these questions within the timescale and resources available*

Annex C: ReCAP RAI Status Review – Briefing Note

Briefing Note – Status Review of the Updated Rural Access Index (RAI)

Updated 05 February 2018

The Rural Access Index (RAI) is defined as ‘the proportion of the rural population living within two kilometres of an all-season road’. It was adopted as a development indicator for the Results Measurement System for IDA 14 (the 14th replenishment of International Development Association resources) in 2005. Two kilometres was selected as ‘typically equivalent to a walk of 20-25 minutes’.

In March 2006² a summary of country level RAI data for 32 IDA countries, and 32 non-IDA countries was published by the World Bank. Amongst these 64 countries, the RAI for 26 countries was based on results from five different types of household survey data, the RAI for 10 countries was based on GIS analysis, and the RAI for 22 countries was estimated using modelling techniques.

For countries where a regular national household survey took place every few years, the intention in 2006 was that a suitable question should be added to that survey. The effort to update the RAI for such countries thereafter was estimated to be ‘one day of experienced statistical input’ for each survey. GIS analysis and modelling techniques were mentioned as alternatives. It was also suggested that ‘if at all possible, a second question should be included to ask about access to a reliable, all-season ‘transport service’’, and that in the medium-term, emphasis might shift to transport services.

Although the RAI has subsequently been used extensively as a project tool, and for arguing the case for improved rural transport, regular measurement of the RAI has not become widely institutionalised as normal practice. There has also been extensive debate about how accurately the RAI models the reality of rural accessibility, for example across different types of terrain, how ‘all-season’ should be interpreted, and the effect of evolving modes of rural transport including the extensive and expanding use of motorcycles in some countries.

Following the establishment of the Sustainable Development Goals (SDGs) in 2016, SDG Indicator 9.1.1 was defined as the ‘Proportion of the rural population who live within 2 km of an all-season road’. The World Bank is the custodian agency for this Indicator. The UN Inter-agency and Expert Group on Sustainable Development Goal Indicators (IAEG-SDGs), the members of which are an internationally representative group from National Statistics Offices of UN countries, will review whether any SDG Indicators need to be modified in 2020 and in 2025. Before the review in 2020, it is important to demonstrate that the methodology for measuring the RAI is appropriate for the purpose intended, and that data is being collected in a significant number of countries

The World Bank has been actively supporting the development of the RAI. This includes developing GIS based techniques and new data sources to measure the RAI at regional and local levels to support project and national planning activities, and studying the correlation between RAI and other development data. Pilot application of updated spatial techniques in eight countries³ in Africa and Asia was summarised in a report published in 2016⁴, and this work has subsequently been extended

² World Bank Transport Paper TP-10 March 2006 ‘Rural Access Index: Key Development Indicator’, Peter Roberts, Shyam KC, Cordula Rastogi.

³ Ethiopia, Kenya, Mozambique, Tanzania, Uganda, Zambia, Bangladesh and Nepal

⁴ Measuring Rural Access: Using new technologies’, 2016, UKaid/ReCAP/World Bank.

to include additional countries. The spatial technique involves overlaying the population census on the road network map to estimate the proportion of population living within 2km of a road. The national roads authority in each country is required to indicate which roads are 'all-season'.

The UKAid funded Research for Community Access Partnership (ReCAP) has provided funding for the World Bank initiative to apply new technologies to support the more extensive use of the RAI, and the establishment of the comprehensive international RAI data for most countries in the world that is expected for an SDG Indicator.

During February and March 2018, ReCAP is carrying out a status review of progress with the more widespread institutionalisation of the RAI, in particular through the application of new technologies being piloted by the World Bank. This status review will assist in planning the most effective strategy to support further development of the RAI, with a view to achieving future widespread international regular update of the RAI as SDG Indicator 9.1.1.

Stephen Vincent is the Principal Investigator for the ReCAP RAI status review. He is gathering information about all aspects of the current development and use of the RAI, and is interested in receiving objective feedback from anyone involved in collecting the data upon which the measurement of RAI is based, or who intends to make use of RAI data in the future.

Annex D: Meetings during inception phase

12-Dec-2017

ReCAP RAI Status Review Inception Meeting at Cardno offices in London

Attended by:

ReCAP: Gerome Rich (at start), Annabel Bradbury, Les Sampson, Jasper Cook

CDS: Stephen Vincent (SV)

- History of ReCAP involvement with RAI (ReCAP)
- DFID is looking for innovative solutions
- Need clear status review statement of where RAI is now, and where it needs to go
- Status review not solving the problems, but identifying issues that need to be solved
- Explanation of CDS RAI status review methodology (SV)
- Proposed travel schedule (SV)
- ReCAP to review draft list of questions to be addressed as early as possible
- Discussion of documents relevant to desk review
- Discussion of contacts relevant to consultations

05-Jan-2018

Skype meeting with ReCAP PMU

Audio conference with Annabel Bradbury, Les Sampson, Jasper Cook

- Discussion prior to Jasper Cook meeting in USA with DFID/World Bank
- Concern at World Bank that RAI might be dropped as a UN SDG Indicator
- ReCAP concern about different definition of RAI used by World Bank RAI team
- DFID concern about delay in making progress with additional RAI pilots

12-Jan-2018

Skype meeting with ReCAP PMU

Audio conference with Annabel Bradbury, Les Sampson, Jasper Cook

- Briefing following meeting in USA
- Agreement that RAI definition should continue to use an 'all-season' road
- World Bank has continued to pilot RAI in additional countries, unknown to DFID/ReCAP
- RAI working group to meet every 3 months, first meeting end of February
- Jose Luis Irigoyen at World Bank would like to see further discussion with DFID/ReCAP

15-Jan-2018

Meeting with Paul Starkey, Reading

- Many years of experience with non-motorised and all forms of rural transport
- Some knowledge of development of original RAI in 2006
- Participated in discussions with World Bank team during recent development of RAI
- Discussed studies of rural transport in Africa (including Liberia 2017)
- Discussed changes in rural transport over the last decade
- Discussed recent impact of rural motorcycle transport for health, education & market access

Meeting with John Hine, Crowthorne

- Many years of experience working with rural transport in developing countries
- History of development of original 2006 RAI for IDA 14
- Original intention of using household surveys to measure RAI
- Other household survey statistics now widely used for many other purposes

- Whether access is possible is far more important than the condition of a road in rural areas
- Prepared review comments on World Bank 2016 RAI Phase 2 proposal to ReCAP
- Discussed studies of rural transport in Africa (including Liberia 2017)
- Some studies show that HDM-4 benefits based on roughness very inaccurate

Meeting with Kevin McPherson, at TRL, Crowthorne

- Reviewed transport statistics data collection in Ethiopia and Uganda in 2006
- Knowledge of state of the art transport sector data collection and processing

17-Jan-2018

Meeting with Elizabeth Jones at DFID in London

- DFID expectations from the ReCAP RAI status review
- RAI working group, ReCAP/World Bank/DFID, to meet as soon as possible
- Importance of RAI as a UN SDG Indicator, needs to move from Tier III to Tier II (or Tier I)
- UN SDG Indicator review processes and role of UN IAEG-SDGs
- RAI used in DFID business cases, is understood at senior levels and by non-specialists
- Contact points in various organisations for consultation

19-Jan-2018

Skype meeting with ReCAP PMU

Audio conference with Annabel Bradbury, Les Sampson, Jasper Cook

- Is the UN process of getting SDG Indicator 9.1.1 from Tier III to Tier II outside project scope?
- Concern that World Bank is proceeding without sufficient consultation with ReCAP/DFID
- Inception Report is an opportunity to get clear direction from DFID on priorities
- RAI Working Group members should see Inception Report before meeting
- ReCAP quality review of Inception Report will take two weeks before issue
- Ask Atsushi if it would be useful to hold RAI Working Group meeting during WB visit

Annex E: Tasks and task sub-components

Task 1: UK – Initial meeting and Inception report

- 1.1 **Inception Meeting with ReCAP/DFID – Questions to address & travel schedule**
- 1.2 Prepare Inception Report

Task 2: UK – Desk review and finalising list of questions to be addressed

- 2.1 Desk review of existing RAI documents
- 2.2 Finalise list of questions to be addressed
- 2.3 Prepare discussion paper as briefing for all meetings
- 2.4 *Internal project quality review of questions and discussion paper*
- 2.5 **Verify list of questions to be addressed with ReCAP/DFID**

Task 3: Washington DC – World Bank and RAI team

- 3.1 Meet RAI team to understand latest developments
- 3.2 Review technical methodology for measuring RAI
- 3.3 Develop principles for financial model of cost components of RAI
- 3.4 Preliminary assessment of potential uses of RAI and drivers for each use
- 3.5 Meet World Bank staff to discuss planned use of RAI
- 3.6 (provisional) Meet IDB staff to discuss collection and use of RAI data

Task 4: UK – Interim Report and review of progress

- 4.1 Prepare outline proposals for TG2 ‘Consolidation and Revision’
- 4.2 Consolidate progress so far in Interim Report
- 4.3 *Internal project quality review of progress so far*
- 4.4 **ReCAP/DFID review of Interim Report and progress so far**

Task 5: Wider consultation with rural development specialists and countries

- 5.1 Circulate brief summary of activities by e-mail requesting comments
- 5.2 Review any comments received by e-mail

Task 6: Africa – AfDB and country visits

- 6.1 AfDB – Meet Open Data for Africa team to discuss data collection & use
- 6.2 AfDB – Meet AfDB staff to discuss planned use of RAI
- 6.3 Africa country visits – Meet potential RAI data gatherers/providers
- 6.4 Africa country visits – Meet potential RAI data users

Task 7: Asia – Nepal, Bangladesh, ADB and preparation of Draft Final Report

- 7.1 Asia country visits – Meet potential data gatherers/providers/users
- 7.2 ADB - Meet ADB staff to discuss collection and use of RAI data
- 7.3 Prepare detailed recommendations for TG2 ‘Consolidation and Revision’
- 7.4 Prepare recommendations on core activities for TG3 ‘Application in Pilot Countries’
- 7.5 Prepare Draft Final Report
- 7.6 *Internal project quality review of Draft Final Report*

Task 8: UK – Review and Final Report

- 8.1 **Review of Draft Final Report by ReCAP/DFID/World Bank**
- 8.2 Revision of Draft Final Report to address review comments
- 8.3 *Internal project review of Final Report*
- 8.4 Finalisation and issue of Final Report

Annex F: Updated Workplan

SCHEDULE & TASKS	2018																												Total							
	January							February							March							April								May						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28		29	30	31				
Phases of work defined in Terms of Reference	01 Jan start																																			
Inception reporting	[Orange bar from Jan 1 to Jan 3]																																			
Project implementation and preparation of Draft Final report	[Orange bar from Jan 1 to Jan 3]																																			
World Bank/DFID Discussions and Preparation of Final report	[Orange bar from Jan 1 to Jan 3]																																			
Milestones/Deliverables	[Orange bar from Jan 1 to Jan 3]																																			
1. Inception Report	[Red triangle on Jan 3]																																			
2. Interim Progress Report	[Red triangle on Feb 8]																																			
3. Draft Final Report	[Red triangle on Mar 26]																																			
4. Final Report	[Red triangle on Apr 14]																																			
Travel plan (provisional)	[Black bar from Jan 1 to Jan 3]																																			
UK	[Black bar from Jan 1 to Jan 3]																																			
Washington DC, USA	[Black bar from Jan 1 to Jan 3]																																			
Africa (Cote d'Ivoire, Ethiopia, Uganda)	[Black bar from Jan 1 to Jan 3]																																			
Asia (Nepal, Bangladesh, Philippines)	[Black bar from Jan 1 to Jan 3]																																			
Task 1: UK - Initial Meeting and Inception Report	[Blue bar from Jan 1 to Jan 3]																																			
Task 2: UK - Desk review and list of questions to be addressed	[Blue bar from Jan 1 to Jan 3]																																			
Task 3: Washington DC - Meetings with World Bank and SRAI team	[Blue bar from Jan 1 to Jan 3]																																			
Task 4: UK - Interim Report and review of progress	[Blue bar from Jan 1 to Jan 3]																																			
Task 5: Wider consultation with rural development specialists and countries	[Blue bar from Jan 1 to Jan 3]																																			
Task 6: Africa - Meetings with AfDB and country visits	[Blue bar from Jan 1 to Jan 3]																																			
Task 7a: Asia - Country visits, meetings with ADB	[Blue bar from Jan 1 to Jan 3]																																			
Task 7b: Draft Final Report	[Blue bar from Jan 1 to Jan 3]																																			
Task 8: UK - Review and Final Report	[Blue bar from Jan 1 to Jan 3]																																			
	Days of input																																			
	2	3	4	3	3	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4				
Stephen Vincent																																		3		
Robert Gaddes																																		1		
Hamish Goldie-Scott																																		1		
																																		1		
																																		7		

Annex G: Risks and Mitigation Measures

This table is reproduced from the revised CDS proposal, with the addition of risk (8).

(Note that this list will be reviewed and updated during each quality review)

	Risk	Proposed mitigation
(1)	Lack of time and resources to carry out the extent of work required.	Care has been taken to propose a limited set of activities which it is believed should be possible within the time and resources available.
(2)	Difficulty understanding all of the technical details of the method proposed for measuring RAI.	The PI has previous knowledge of all of the main technologies involved.
(3)	Failure to identify appropriate contact points in each organisation to be visited sufficiently in advance to arrange the meetings needed.	Timely assistance from ReCAP/DFID/World Bank will be needed to minimise this risk.
(4)	Lack of availability of key staff in organisations relevant to RAI for planned meetings.	The project schedule has been designed to give as long a lead time as possible to arrange visits and meetings.
(5)	Selection of inappropriate organisations or people for review discussions.	The PI is already familiar with working with the main organisations involved, and information requirements are carefully planned to assist in identifying the most appropriate individuals to talk to.
(6)	Being unduly influenced by restricted viewpoints of particular individuals or organisations.	Project objectives and tasks, and questions to be addressed, are defined before interviews commence to minimise such influence.
(7)	Unable to access suitable e-mail address lists for the proposed wider consultation of rural development specialists and country government officials.	The assistance of ReCAP/DFID/World Bank will be needed to minimise this risk.
(8)	One or more visas are not issued in time to travel according to the planned schedule.	Visa applications are being initiated as early as reasonably possible.